

SPECIAL **TIME** EDITION

THE POWER OF HABITS



*Start Good Ones, Break Bad Ones,
Change Your Life*



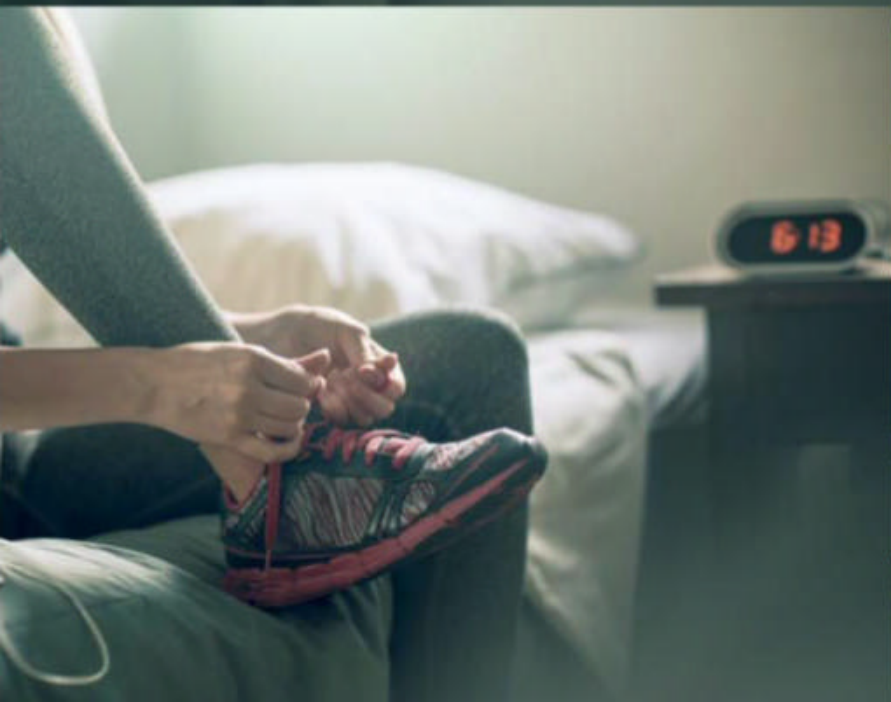
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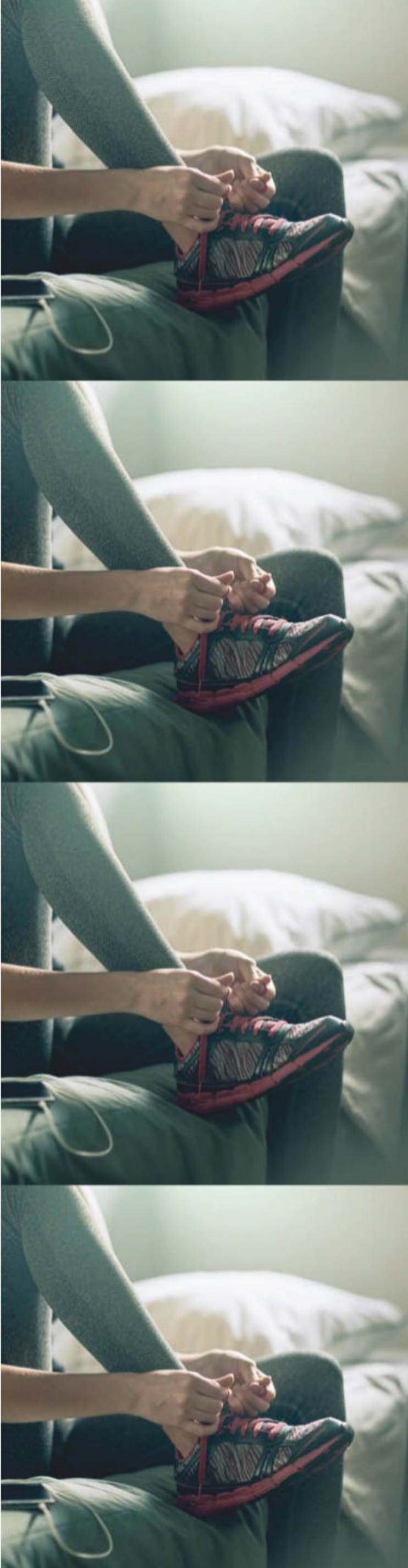
THE POWER OF HABITS



Start Good Ones, Break Bad Ones, Change Your Life







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Parts of this edition appeared previously in TIME.

HOW HABITS MAKE (AND BREAK) US

**THEY TORMENT US AND YET PROTECT US,
DRIVE US MAD AND YET KEEP US SAFE.
IT ALL DEPENDS ON WHICH HABITS
WE LEARN AND WHICH ONES WE LOSE**

BY JEFFREY KLUGER



YOU'RE MORE LIKE A PAIR OF PANTS THAN YOU think. We all are. We also have a fair bit in common with a violin, a balky lock and a folded piece of paper. That, at least, is how the 19th-century French psychologist and philosopher Léon Dumont saw us.

Dumont had a knack for tackling irresistible aspects of human behavior: the science of laughter, of gratitude, of empathy. He also, famously, pondered the science of habits. To him, our tendency to form unconscious behavioral patterns—to learn an action, sometimes link it to a whole series of actions and then repeat it again and again and again, often entirely unconsciously—was less a matter of mind than a matter of physics. We do not so much direct our own actions as become shaped by them.

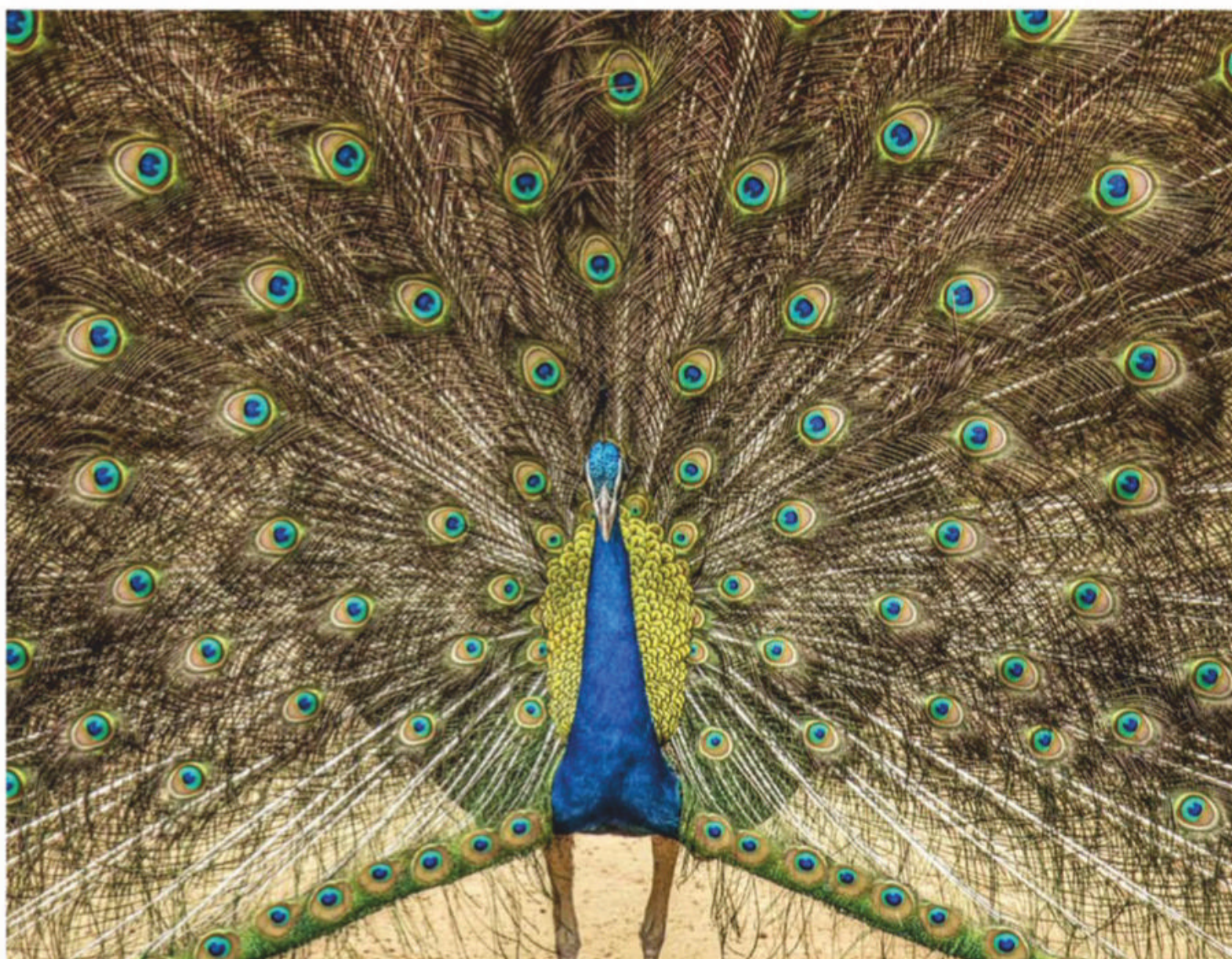
“Everyone knows how a garment, after having been worn a certain time, clings to the shape of the body better than when it was new,” he wrote. “There

has been a change in the tissue, and this change is a new habit of cohesion.”

Dumont saw something similar in the way that the sound produced by a violin—provided it has been in the hands of a gifted player—improves over time because the very fibers of the wood “contract habits of vibration conformed to harmonic relations.” In the same way, the rough, fresh metal of a lock’s internal mechanisms is smoothed by repeated use, and the first fold of a piece of paper is always a bit harder than subsequent folds along the same crease. “Just so,” he wrote, do the things we experience and the manner of our actions “fashion for themselves in the nervous system more and more appropriate paths.”

That, quite simply, is why you bite your nails or chew your pens or twirl your hair or jingle your keys or do that incessant throat clearing whenever





Like animals, whose behavior is shot through with hardwired habits, we repeat behaviors if only because they got us through one day and will likely get us through the next.

you're concentrating, even if the people around you are looking at you with expressions that are begging you to please, please, please stop it already.

More-complex habits with greater impact on your life are the result of similar experiential shaping. There is the habitual business of showing up late or missing your deadlines or failing to save money or promising yourself you'll go to the gym but never actually following through. You've either developed the habit for those bad things or failed to develop good ones. And if you do learn to do better, well, that in itself is another kind of habit.

Either way, it sometimes seems that we are fairly governed by our habits, in thrall of our habits—that we are, as Dumont's contemporary, American philosopher William James put it, little more than "bundles of habits." It's a description that feels equal parts right and unavoidably galling—at least for higher-order creatures like us.

We've come a long way since the days when even such deep thinkers as René Descartes believed that animals were essentially living machines, automata that responded exclusively to neural programming and external stimuli—like self-driving cars with no thought, volition or even consciousness. That may actually be true when it comes to simple creatures like insects, but the overwhelming consensus now is that higher animals are very much conscious beings, possessed of rich interior lives.

Still, instincts are instincts, and animals are governed by a sort of factory-loaded code far more so than we are. Why else would domesticated dogs still turn in circles before lying down, if not to flatten out the grass on a long-ago prairie, despite the fact that its species hasn't lived there for hundreds of generations? Why else would a male bird put on a mating display in front of a decoy female, responding more to silhouette and color than to the fact that the ostensible female has

not moved so much as a millimeter? Animal behavior is shot through with such hardwired habits.

Humans, certainly, are different, though not nearly so much as we think. Most of our habits are learned, not instinctual, but we perform them unconsciously all the same—and that can actually be a good thing. You’d waste a whole lot of time if you had to think through each step of your morning commute—pour your coffee, pick up your keys, hop in the car, start it up, put the coffee in the cup holder and on and on until you at last arrive at work.

For many simple chores like that—brushing your teeth, making your bed, frying an egg—you bundle the whole thing up into a single habit package and then perform it automatically. Psychologists call that phenomenon “chunking,” and while most of the time it’s entirely benign, it’s not always.

Unconscious habits like nail-biting or even smoking are chunked too. They are triggered, often enough, by stress, which gives rise to a physical distraction intended to bleed off some of that anxious psychic energy. The good news is that it works. The bad news is that the reward becomes learned and permanent. While the very first nail bite or hair twirl or certainly cigarette might have been a conscious choice, the hundreds and thousands that follow over the years are entirely automatic. The behavior is, in a sense, substance abuse without the substances. Regardless of the indulgence—drugs, alcohol, a self-soothing habit—the rush of feel-good brain chemistry that follows makes it hard not to want to repeat the action, never mind the consequences.

This, like it or not, does bring us closer to our animal kin. In a celebrated—if arguably unkind—1985 experiment, a group of psychologists at the University of Cambridge trained laboratory rats to press a lever to receive a food reward. The connection between action and outcome was established, and the animals kept pressing and kept eating. They were then moved to a different cage without a lever and fed the same food, only this time it was treated with a chemical that left it tasting exactly the same but caused the rats to experience nausea. This was supposed to “devalue” the reward, discouraging the rats from going near the lever later. For some, that’s what happened. Others went straight back to pressing. They had learned that the food was bad, but the original habit trumped the later wisdom.

That automaticity plays out in our simple physical habits, and it’s equally true of our more complex

ones—both good and bad. Procrastinators follow a well-established behavioral pattern of avoidance, delay, rationalization and, finally, night-before panic. Planners follow a similarly well-trod path of organization, discipline, scheduling and follow-through. Frugal people practice the familiar habit of earning, saving and smartly investing. The less frugal are in a similarly predictable cycle of maxing out credit cards, piling up late fees and sweating out the last two days before the paycheck arrives. So it goes if we do or don’t exercise, do or don’t keep a tidy desk, do or don’t eat the way our doctor keeps telling us to eat. All of these behaviors have been learned, rehearsed, chunked, stored—and all of them are exceedingly difficult to *unlearn* when we want.

But exceedingly difficult is not the same as impossible. And here the hard science of neurology and evolution can yield to the softer science of self-discipline and practice. Psychologists recommend, for example, establishing so-called keystone habits—fundamental goals or objectives that encourage the development of lesser included habits. If your keystone habit is to have enough money to retire and buy a summer home, the late fees and the maxed-out cards give way to the habits of saving. If your keystone habit is physical health, the junk-food and drinking habits get broken and are replaced by a healthy diet and regular exercise.

There is, too, the strategy of habit substitution. Simply dropping an unwanted habit is going to leave behind a behavioral vacuum that is all but certain to be filled in short order by that very same habit. Replace the nail-biting with deep breathing, the candy with carrots, and you crowd out the bad actions you don’t want with the good actions you do. Avoiding triggers—the people who cause you stress, the foods you’re most likely to binge on—can work too.

None of this is easy. For all of its elegance, evolution can sometimes be a very blunt instrument. It shaped us to survive—nothing more—and it gave us the best brain it could for that job. The problem is, it’s a brain that’s trying to do its surviving in a world full of stressors and temptations and endless demands. So we take shortcuts and repeat behaviors and indulge our appetites if only because they got us through one day and will likely get us through the next. Our habits are, in a sense, the sum of our experiences. We’re not responsible for the ones we have, but we can be responsible for taking control and developing better ones. □



The background of the page features six vertical decorative patterns. From left to right: a grid of squares, a series of nested triangles pointing upwards, a series of overlapping circles, a solid vertical line, a grid of squares, and a series of overlapping circles.

GOOD HABITS

CHAPTER

1

THE RIGHT
DAILY RITUALS
CAN IMPROVE
OUR HEALTH,
EASE OUR
MINDS AND
GIVE OUR
FAMILIES A
SHARED SENSE
OF BELONGING.

HOW TO TAME THE WILD INSIDE YOU

WILLPOWER IS LIKE A MENTAL MUSCLE. IT NEEDS REGULAR EXERCISE—AS WELL AS THE OCCASIONAL BREAK

BY JEFFREY KLUGER

PITY YOUR PREFRONTAL CORTEX—THE CEO AND chief justice of the bedlam that is your brain. It's the prefrontal that has to reconcile the artiste of your right hemisphere with the logician of your left, the tough guy of your hypothalamus with the drama queen of your anterior cingulate cortex. All that seems like more than enough. But then comes the job of wrangling the dorm rats and party animals of your midbrain, the place where your most decadent appetites—for drinking, gambling, eating, smoking, shopping, sloth, sex—come to get fed.

The battle between your noble lobes and your ignoble ones isn't even close. Eating, having sex and sleeping are vital for the survival of the species, so

evolution arranged for them to be irresistibly pleasurable. Acquisitiveness is important too, so shopping and gambling carry kicks of their own. As for smoking, drinking and taking drugs, they have no survival value, but they don't need to, since they get around evolution and pick the chemical locks of the brain's pleasure centers directly.

The higher brain isn't completely unarmed in this fight. Indeed, it has one very powerful resource on its side: willpower. You need to lose 20 pounds, so you pass up dessert and double down on exercise, and when your resolve starts to slip, you square your shoulders and push on through. The same resolve is at work when you say no to the new gadget you really, truly want but really, truly can't afford, and even (or especially) when that sexy co-worker flirts with you at a party and you shake off the heady feeling and go home to your spouse and kids. We work that willpower muscle every day—and like any muscle, it often goes weak. Also like a muscle, however, willpower can be strengthened, and a growing number of researchers—using brain scans, virtual reality and



more—are learning what kind of psychic calisthenics it takes to get us in shape.

“Our brains operate at three levels: I will, I won’t, and I want,” says psychologist Kelly McGonigal, the author of *The Willpower Instinct* and a professor at Stanford University. “For many of us, the I-want part wins.”

It’s easy to call a lot of this addiction, particularly when drugs, alcohol or behaviors like gambling are involved, but that would be glib. Broadly, addiction is best described as knowing that a substance or behavior is wrecking your life and yet being unable to stop. Failure of will is more about behaviors that are compromising your life—making it less healthy or prosperous than it could be—yet can’t quite be controlled even though you try.

It’s no wonder we get fatigued from the effort. Just deciding what to eat in the course of a day requires us to make 227 discrete choices, according to McGonigal. And food is only part of it. Every evening brings a happy hour that invites you to join; every block brings a store that’s designed to make you buy. “We’re living in a world that is constantly tantalizing the reward centers in our brains—retail, phones, computers,” says McGonigal. “Short bursts of dopamine that come from things like email make it hard to focus on long-term goals.”

That comes at a high price. According to a 2007 study in the *New England Journal of Medicine*, 40% of all deaths are attributable to what behavioral researchers call poor self-regulation—the kind that causes 38 million American adults to continue to smoke or 70% to qualify as overweight or obese.

But if willpower is elusive, the good news is that it’s also “trainable and cultivatable,” according to Roy Baumeister, a psychologist at Florida State University, one of the leaders in the field and a co-author, with journalist John Tierney, of the book *Willpower*. “The simple truth is that the brain evolved from the back to the front,” Baumeister says. “The back is the wanting part, the front is the restraint part, and they’re both with us all the time.” The goal of the willpower researchers is to help make peace between the two.

IT’S ALL IN YOUR HEAD

THE I-WANT FOOT STOMPING OF THE LOWER BRAIN may be trouble now, but it wasn’t designed with moderation in mind. Human beings emerged in a world in which resources were limited and there was no

percentage in reflecting too much on how we availed ourselves of them. You eat—indeed gorge—whenever food is available because you never know when the next famine will hit. You mate with any partner who seems available and willing for the same seize-the-moment reason.

We don’t even need real food or a real partner for those impulses to be activated. One telling experiment asked undergraduate males—a group motivated to mate if ever there was one—to answer an on-screen questionnaire about how they might behave in situations that offered the possibility of reckless or otherwise dubious sex. The subjects—no surprise—tended to rate themselves highly, predicting they’d behave wisely and honorably. One way to make the scores plummet? Leave a picture of a scantily clad woman somewhere within the subjects’ line of sight during the test. That’s an example of what psychologists describe as priming a cognitive system—in this case, the reward system. Get the primal desires sufficiently activated and they will quickly overtake reasoned control.

That teeter-totter relationship plays out constantly, and while studying the phenomenon used to depend on subjective reports, it’s now possible to peer inside the brain and watch the process play out in real time, thanks to functional magnetic resonance imaging (fMRI). Very broadly, when the midbrain—particularly the nucleus accumbens—lights up, it indicates desire on the rise; activity in the dorsolateral prefrontal cortex, at the top forward portion of the brain, indicates an effort to control that impulse. Ideally, the dorsolateral wins, but a lot of things can prevent that. Alcohol and drugs, for example, both thrill our lower brains and compromise the prefrontal’s ability to contemplate consequences. That’s a powerful one-two blow. But external chemistry is hardly needed to make us stray.

In one particularly illuminating bit of research, cognitive neuropsychologist Reza Habib of Southern Illinois University teamed up with Mark Dixon, an addiction specialist, to look inside the brains of problem gamblers and compare them with those of casual gamblers and nongamblers. When the subjects were inside the fMRI scanner, Habib and Dixon showed them a series of images of slot machines displaying one of three possible results: a win, a loss, and a near miss with, say, two cherries on the center line and a third just below it. That last one is a tantalizing image even for people for

HOW BETTER HABITS CAN MAKE YOUR DAY

Crucial though it is, willpower doesn't act alone. It is channeled—or undermined—by our daily routines, the patterns of behavior we mindlessly follow. So contends *The Power of Habit*, by former *New York Times* reporter Charles Duhigg. More than 40% of the actions we perform each day are the product not of deliberate decisions but of often-unconscious habit, Duhigg notes, and many of these rote activities work against what we consciously desire, as when we put too much food on our plate despite wanting to lose weight.

Fortunately, it's possible to change our habits. The “golden rule of habit change,” according to Duhigg, is to keep the old cue (the signal that leads you to initiate a routine) and the old reward (the gratifying experience that reinforces the routine) but insert a new routine in place of the old one. If getting home from work is usually a cue to flop onto the couch and munch chips while watching TV, put a pair of sneakers by the front door. Substitute a new routine—an early-evening run—for the old one of snacking, but keep the reward: after exercising, allow yourself to watch your favorite show. Repeat this often enough and you will have a habit in place that you want to keep.

With Duhigg's ideas in mind, let's consider a typical weekday morning, when the routine involves jumping up at the alarm's buzz, diving into the shower and rushing out the door with barely a moment to think. A stressful commute gets your blood pressure climbing. Once at the office, you glance

THE DARK SIDE OF YOUR WAKE-UP ROUTINE

Rebooting some common—but harmful—habits can boost creativity



BAD MORNING

Rushing out of bed and worrying about the day's to-do list while showering can prime the brain against flexible thinking.



GOOD MORNING

Help get the brain into the right zone for problem-solving by lounging in bed for a few minutes and then relaxing with a soak.



MINDFULNESS

Simply resisting an urge makes it worse. Accept the craving and use breathing or other methods to relax.



PAUSE AND PLAN

Have a practice in place for dealing with cravings. That brings your higher brain into the game.

through the newspaper's array of discouraging stories. With a sigh, you pour yourself a cup of coffee and get down to work, ready to do some smart, creative, original problem-solving.

Good luck with that.

The habits most of us follow each morning, it turns out, run exactly counter to the conditions that neuroscientists and cognitive psychologists tell us promote flexible, open-minded thinking. Our hurried wake-up leads us to miss imaginative insights, which are most likely to come to us when we're groggy and unfocused. The stress of our commute can damage the substance that insulates our brain cells. And reading downbeat news hampers our ability to solve problems creatively.

The only thing most of us do right, in fact, is drink coffee. Caffeine increases the brain's level of dopamine, the neurotransmitter that promotes feelings of motivation and reward when we hit on a great idea.

So what would a better morning routine look like? We'd set the alarm to go off a few minutes early and lie awake in bed, following our thoughts wherever they might meander (with a pen and paper nearby to jot down any evanescent inspirations). We'd stand a little longer in the warm water of the shower, dismissing task-oriented thoughts (“What will I say at that 9 a.m. meeting?”) in favor of a few more minutes of mental dilation. We'd take some deep breaths during our commute instead of succumbing to road stress. And once in the office—after getting that cup of coffee—we'd direct our computer browser not to the news of the day but to a funny video. Laughing babies and a double latte: now that's a routine with which to start the day.

—Annie Murphy Paul

whom gambling has little appeal. It's also a diabolical image.

"Near misses are inserted into slot-machine cycles to keep you hooked," Habib says. "They cause you to think, Oh, I'm getting close!"

In games of chance, close means nothing, and the rational brain knows that. But not the lower brain. When problem and nonproblem gamblers witnessed a payoff, both groups registered reward in the pleasure centers. A loss caused the cautionary regions of the higher brain to light up in both. When it came to a near miss, the groups parted ways: nonproblem players processed it as a loss, while problem players experienced it as something like a win.

As with all such studies, it's difficult to tease out whether a malfunction in the brain led to the compulsive behavior or the compulsive behavior instead changed the brain. It's even harder to know exactly where on the behavioral spectrum problem gambling becomes addictive, though at some point it does. Still, the behaviors have similar roots. "In both cases there is an imbalance between the restraint and indulgence systems," says McGonigal. "Indeed, when you look at true addiction, compared to a moment of giving in, it doesn't even look all that different in the brain."

THE BEST INTENTIONS

IF IT'S CLEAR THAT WE ALL OCCUPY DIFFERENT spots on the willpower continuum, it's less clear why. The first place to turn to may be our genes. Few psychologists doubt that the fundamentals of temperament are set at birth; we're factory loaded for introversion or extroversion, coolheadedness or temper, so why not willpower—or its lack? "I wouldn't bet against a genetic piece," says Baumeister. "Impulsivity data show a pretty good hereditary component."

But environment, as always, plays a role too, and in ways that go beyond the habits you pick up at home. All species are good at reading the larger world into which they're born and determining if it's a safe one, in which moving slowly and taking care pays dividends, or a dangerous one, in which it's smarter to grab what you can. Studies of neighborhoods torn by gang violence, where people have shorter life expectancies, show that people make some of their decisions about dangerous behaviors with mortality at least in the back of their minds. In all of those areas, smoking, drinking, unprotected sex and criminality are more common, simply be-

cause what is likely to be a short life might as well be a fun one. You never develop a willpower muscle because, really, what's the point?

Of course, the brain is not actually a muscle, apt as the analogy seems, so what makes it behave like one? One thing may be glucose—the brain's fuel of choice—with willpower rising and falling along with our glucose levels. In a memorable 2010 study at the University of South Dakota, investigators recruited 65 undergraduates and had them participate in a classic delayed-gratification game, offering them

GETTING HELP FROM YOUR FUTURE SELF

We all know we'll get old, but we don't act

that way. Technology allows people to see how they'll look in the future—and better plan for that person to come. Psychologist Hal Hershfield of UCLA's Anderson School of Management uses two techniques to give subjects a glimpse into the future: common aging software (below, working its magic on Mark Zuckerberg) and a more exotic virtual-reality system (right) that superimposes an older version of the self on the image in a full-length mirror. Subjects who have been through either experience tend to put away more money in a simulated 401(k) experiment than those who haven't. Hershfield has worked with a business insurer to develop similar aging software that human-resources departments can use when new hires are making real retirement decisions. Merely being respectful toward older people can sometimes work a similar effect, leading to a sort of virtuous boomerang: when Hershfield uses stories or onscreen scenes to boost subjects' regard for people older than themselves, those subjects also tend to put away more money in the 401(k) exercises.

Mark Zuckerberg



Age 30

Age 68



*This headset shows
its wearer an older
version of himself in
the hope that he'll
make better decisions.*

WHY WE LOSE CONTROL (AND YES, WE ALL DO)

Self-control is a matter of balance. The midbrain region governs desire; the prefrontal cortex governs control. Here are some things that tip the teeter-totter.



CUE EXPOSURE

Favorite foods, free drinks or the smell of cigarettes trigger a desire, setting a perilous cycle in motion.



LAPSE-ACTIVATED CONSUMPTION

Also known as the what-the-hell effect. You fall off the wagon and then binge, since really, what does it matter now?



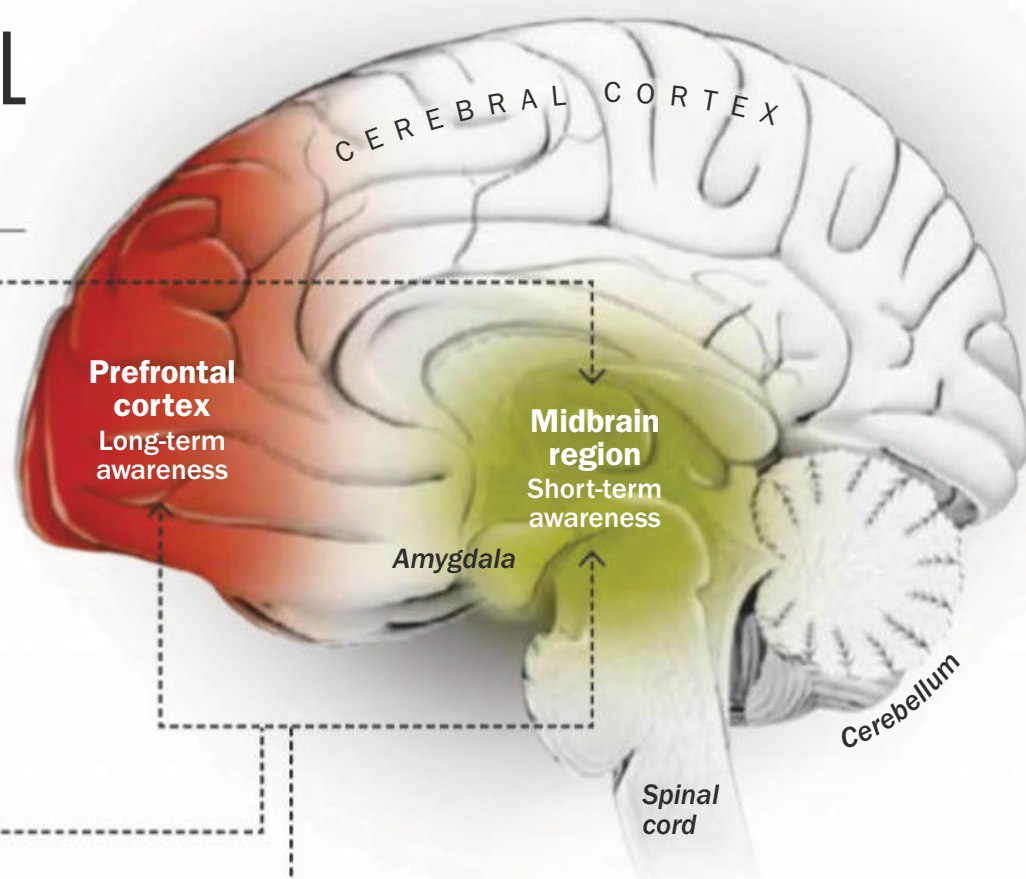
NEGATIVE MOOD

We treat psychic pain with our preferred substance. This worsens the what-the-hell effect.



RESOURCE DEPLETION

Glucose is the brain's main fuel. Some researchers believe that when we're running low on it, our willpower flags and we're much more likely to give in to temptation.



the chance to roll dice and win either \$120 that day or \$450 that they couldn't have for 31 days. Many of the typically cash-strapped students decided that an immediate payout was more valuable than a larger one later. But one thing helped them defer the reward: subjects who had consumed sugary sodas before the experiment were significantly more likely to pick the later \$450 than those who had drunk artificially sweetened sodas.

"The brain is always monitoring its resource levels," says McGonigal. "If sugar is rising, we feel like we can defer indulging ourselves. In other studies, investigators control people's willpower as if with a joystick by putting them on a glucose infusion and regulating it up and down."

GETTING IN YOUR OWN WAY

EVEN AS THE GLUCOSE MODEL IS DEBATED, PSYCHOLOGISTS agree on a few other phenomena that sabotage willpower. Take the what-the-hell effect—

which is exactly what it sounds like. You're on a diet, you have a bit of ice cream, and then, what the hell, the day's a loss anyway, you might as well finish the pint. There's a lot of what passes for conscious choice in this, which makes it hard not to blame yourself later. But you may be less responsible than you think.

In one 2010 study, investigators affiliated with Dartmouth University recruited 100 subjects, half of whom were chronic dieters and the rest of whom had little history of having to control their weight. They were slid into an fMRI scanner to see how their brains reacted to images of food. The non-dieters showed activity in the nucleus accumbens, one place where appealing cues are processed, and little activity in the amygdala, which would have indicated an aversion to food. The dieters showed just the opposite, suggesting that they were trying—successfully—to control their appetites. All the subjects were taken out of the scanners and given

15-ounce milkshakes to drink. They then went back in and were shown the same images.

This time, the nondieters' nuclei accumbens stayed quiet, showing no interest in any more food, and their amygdalae lit up, flashing a "stay away" signal. The dieters, curiously, had the opposite reaction: even though they had consumed as much as the other group, their nuclei accumbens went into action—effectively saying "more"—and their amygdalae grew quieter. This didn't mean they were insatiable. Rather, as any recidivist dieter knows, it suggested that the very idea of food had become so fraught for them that drinking a milkshake triggered an anxiety response, which they then sought to mediate with other foods.

One paradoxical way to contain cravings is what McGonigal calls mindfulness, which is a lot less squishy than it sounds. Studies of smokers in fMRI scanners have shown that trying to deal with an urge through brute resistance only exacerbates the problem, with the lower brain effectively going from orange alert to bright red. People who instead acknowledge their feelings and then work to nudge them back in line with deep breathing or other relaxation exercises can calm their brains faster. "Acceptance doesn't have to mean endorsing the feelings," McGonigal says.

Another willpower booby trap is known as the halo effect. You go to the gym and sweat for an hour, then you go out to lunch. You've been good, so why not get some fries with that sandwich? The flaw in your thinking is as basic as arithmetic: burning off 300 calories and gobbling 500 do not add up. But the halo effect doesn't care. The mere idea of having behaved virtuously may be enough to give you the license to indulge.

Ayelet Fishbach, a professor of behavioral science at the University of Chicago, has run a study that takes this idea to its preposterous extreme. When she offers subjects a bowl of carrots and a bowl of chocolates side by side, they eat less chocolate and more carrots than they do when she mixes them in one bowl. That the two foods touch seems to cause some of the magical goodness of the carrots to rub off on the chocolate.

Another perceptual sleight of hand involves what psychologists call future-self continuity—and what Jerry Seinfeld once described as Tonight Guy vs. Tomorrow Guy. Tonight Guy can go drinking as late as he wants, because getting up in the morning is To-

morrow Guy's problem. We play the Seinfeldian game not just in such small ways but also in more consequential ones, like saving too little for retirement. "We feel closer to the self of a year from now than to the one 10 years from now," says psychologist Hal Hershfield of UCLA's Anderson School of Management. "A very distant future self may be like a stranger."

It's possible to bridge that gap, and Hershfield has come up with an imaginative way, by taking pictures of subjects and running them through software that adds 30 years to their age. People who see the self of tomorrow and then participate in a simulated 401(k) exercise put away more money than those who haven't gotten a glimpse of the person who awaits them three decades hence. Hershfield has even developed virtual-reality goggles that allow subjects to meet their future selves by walking up to them in a full-length mirror.

Most folks trying to strengthen their willpower muscles do not have access to virtual-reality systems, to say nothing of fMRIs. But low-tech methods like mindfulness work. So can something called a pause-and-plan strategy, a phrase coined by psychologist Suzanne Segerstrom of the University of Kentucky. Cravings trigger the fight-or-flight response, narrowing the mind's focus until the danger—in this case the powerful urge or craving for something—is resolved. Pausing and planning well in advance of the crisis widens the options and brings the rational prefrontal cortex online.

Even something as simple as candidly evaluating how much time you'll have to achieve your goals can help. In an ideal world, we'd always be able to get to the gym or go for a jog, but the ideal world has no sick days or overtime at work. That doesn't mean we shouldn't exercise, but it does mean we need to take a cold look at when we can fit it into our schedule and stick to that realistic plan instead of chasing a fanciful one.

None of this is easy—and the fact is, none of it is fun, at least in the very short term. But if there's a happy side to all the new research, it's that the muscle analogy works both ways. It's true enough that the act of exercising willpower can lead to a kind of psychic ache, and it's true too that that can lead to a short-term failure of resolve. But over time, incrementally, fatigue becomes strength, and ache becomes commitment. Your lower brain may always have the fun, but your higher brain, with practice, can still say how much. □



At Alcoa, a metals manufacturer, a focus on safety had a trickle-down effect that improved work habits throughout the company.



SAFETY FIRST, BENEFITS FOLLOW

**SIMPLY BY CHANGING AN
ORGANIZATION'S SAFETY HABITS,
AN EXECUTIVE MADE THE BUSINESS
MORE SECURE, MORE EFFICIENT
AND MORE PROFITABLE**

BY CHARLES DUHIGG

ON A BLUSTERY OCTOBER DAY IN 1987, A HERD OF prominent Wall Street investors and stock analysts gathered in the ballroom of a posh Manhattan hotel. They were there to meet the new CEO of the Aluminum Company of America—or Alcoa, as it was known—a corporation that, for nearly a century, had manufactured everything from the foil that wraps Hershey's Kisses and the metal in Coca-Cola cans to the bolts that hold satellites together.

Alcoa's founder had invented the process for smelting aluminum a century earlier, and since then the company had become one of the largest on earth. Many of the people in the audience had in-

vested millions of dollars in Alcoa stock and had enjoyed a steady return. In the past year, however, investor grumblings had started. Alcoa's management had made misstep after misstep, unwisely trying to expand into new product lines while competitors stole customers and profits away.

So there had been a palpable sense of relief when Alcoa's board announced it was time for new leadership. That relief, though, turned to unease when the choice was announced: the new CEO would be a former government bureaucrat named Paul O'Neill. Many on Wall Street had never heard of him. When Alcoa scheduled this meet and greet at the Manhattan ballroom, every major investor asked for an invitation.

A few minutes before noon, O'Neill took the stage. He was 51 years old, trim and dressed in gray pinstripes and a red power tie. His hair was white and his posture military straight. He bounced up the steps and smiled warmly. He looked dignified, solid, confident. Like a chief executive.

Then he opened his mouth.



Paul O'Neill, former secretary of the treasury under President George W. Bush, transformed Alcoa by keeping a tight focus on worker safety.

“I want to talk to you about worker safety,” he said. “Every year, numerous Alcoa workers are injured so badly that they miss a day of work. Our safety record is better than the general American workforce, especially considering that our employees work with metals that are 1,500 degrees and machines that can rip a man’s arm off. But it’s not good enough. I intend to make Alcoa the safest company in America. I intend to go for zero injuries.”

The audience was confused. These meetings usually followed a predictable script: a new CEO would start with an introduction, make a faux self-deprecating joke—something about how he slept his way through Harvard Business School—then promise to boost profits and lower costs. Next would come an excoriation of taxes, business regulations and sometimes, with a fervor that suggested firsthand experience in divorce court, lawyers. Finally, the speech would end with a blizzard of buzzwords—“synergy,” “rightsizing” and “co-opetition”—at which point everyone could return to their offices, reassured that capitalism was safe for another day.

O’Neill hadn’t said anything about profits. He

didn’t mention taxes. There was no talk of “using alignment to achieve a win-win synergistic market advantage.” For all anyone in the audience knew given his talk of worker safety, O’Neill might be pro-regulation. Or, worse, a Democrat. It was a terrifying prospect.

“Now, before I go any further,” O’Neill said, “I want to point out the safety exits in this room.” He gestured to the rear of the ballroom. “There’s a couple of doors in the back, and in the unlikely event of a fire or other emergency, you should calmly walk out, go down the stairs to the lobby, and leave the building.”

Silence. The only noise was the hum of traffic through the windows. Safety? Fire exits? Was this a joke? Eventually, someone raised a hand and asked about inventories in the aerospace division. Another asked about the company’s capital ratios.

“I’m not certain you heard me,” O’Neill said. “If you want to understand how Alcoa is doing, you need to look at our workplace safety figures. If we bring our injury rates down, it won’t be because of cheerleading or the nonsense you sometimes hear from other CEOs. It will be because the individuals at this com-

pany have agreed to become part of something important: they've devoted themselves to creating a habit of excellence. Safety will be an indicator that we're making progress in changing our habits across the entire institution. That's how we should be judged."

The investors in the room almost stampeded out the doors when the presentation ended. One jogged to the lobby, found a pay phone and called his 20 largest clients.

"I said, 'The board put a crazy hippie in charge, and he's going to kill the company,'" that investor told me. "I ordered them to sell their stock immediately, before everyone else in the room started calling their clients and telling them the same thing.

"It was literally the worst piece of advice I gave in my entire career."

Within a year of O'Neill's speech, Alcoa's profits would hit a record high. By the time O'Neill retired in 2000, the company's annual net income was five times larger than before he arrived, and its market capitalization had risen by \$27 billion. Someone who invested a million dollars in Alcoa on the day O'Neill was hired would have earned another million dollars in dividends while he headed the company, and the value of their stock would be five times bigger when he left.

What's more, all that growth occurred while Alcoa became one of the safest companies in the world. Before O'Neill's arrival, almost every Alcoa plant had at least one accident per week. Once his safety plan was implemented, some facilities would go years without a single employee losing a workday due to an accident. The company's worker-injury rate fell to one-twentieth the U.S. average.

So how did O'Neill make one of the largest, stodgiest and most potentially dangerous companies into a profit machine and a bastion of safety?

By attacking one habit and then watching the changes ripple through the organization.

"I knew I had to transform Alcoa," O'Neill told me. "But you can't order people to change. That's not how the brain works. So I decided I was going to start by focusing on one thing. If I could start disrupting the habits around one thing, it would spread throughout the entire company."

O'Neill believed that some habits have the power to start a chain reaction, changing other habits as they move through an organization. Some habits, in other words, matter more than others in remaking businesses and lives. These are "keystone habits,"


and they can influence how people work, eat, play, live, spend and communicate. Keystone habits start a process that, over time, transforms everything.

Keystone habits say that success doesn't depend on getting every single thing right, but instead relies on identifying a few key priorities and fashioning them into powerful levers. Keystone habits explain why some college students outperform their peers. They describe why some people, after years of trying, suddenly lose 40 pounds while becoming more productive at work and still getting home in time for dinner with their kids. And keystone habits explain how Alcoa became one of the best-performing stocks in the Dow Jones index while also becoming one of the safest places on earth.

"I'm really glad to be here," O'Neill told a room full of workers at a smelting plant in Tennessee a few months after he was hired. Not everything had gone smoothly. Wall Street was still panicked. The unions were concerned. Some of Alcoa's vice presidents were miffed at being passed over for the top job. And O'Neill kept talking about worker safety.

"I'm happy to negotiate with you about anything," O'Neill said. He was on a tour of Alcoa's American plants, after which he was going to visit the company's facilities in 31 other countries. "But there's one thing I'm never going to negotiate with you, and that's safety. I don't ever want you to say that we haven't taken every step to make sure people don't get hurt. If you want to argue with me about that, you're going to lose."

The brilliance of this approach was that no one, of course, wanted to argue with O'Neill about worker safety. Unions had been fighting for better safety rules for years. Managers didn't want to argue about it either, since injuries meant lost productivity and low morale.



Some habits, in other words, matter more than others in remaking businesses and lives. These are "keystone habits," and they can influence how people work, eat, play, live, spend and communicate.

What most people didn't realize, however, was that O'Neill's plan for getting to zero injuries entailed the most radical realignment in Alcoa's history. The key to protecting Alcoa employees, O'Neill believed, was understanding why injuries happened in the first place. And to understand why injuries happened, you had to study how the manufacturing process was going wrong. To understand how things were going wrong, you had to bring in people who could educate workers about quality control and the most efficient work processes so that it would be easier to do everything right, since correct work is also safer work.

In other words, to protect workers, Alcoa needed to become the best, most streamlined aluminum company on earth.

O'Neill instituted an automatic routine: anytime someone was injured, the unit president had to report it to O'Neill within 24 hours and present a plan for making sure the injury never happened again. The only people who got promoted were those who embraced the system.

Unit presidents were busy people. To contact O'Neill within 24 hours of an injury, they needed to hear about an accident from their vice presidents as soon as it happened. So vice presidents needed to be in constant communication with floor managers. And floor managers needed to get workers to raise warnings as soon as they saw a problem and keep a list of suggestions nearby so that when the vice president asked for a plan, there was an idea box already full of possibilities. To make all of that happen, each unit had to build new communication systems that made it easier for the lowliest worker to get an idea to the loftiest executive, as fast as possible. Almost everything about the company's rigid hierarchy had to change to accommo-


date O'Neill's safety program. He was building new corporate habits.

AS ALCOA'S SAFETY patterns shifted, other aspects of the company started changing with startling speed as well. Rules that unions had spent decades opposing—such as measuring the productivity of individual workers—were suddenly embraced, because such measurements helped everyone figure out when part of the manufacturing process was getting out of whack, posing a safety risk. Policies that managers had long resisted—such as giving workers autonomy to shut down a production line when the pace became overwhelming—were now welcomed, because that was the best way to stop injuries before they occurred. The company shifted so much that some employees found safety habits spilling into other parts of their lives.

"Two or three years ago, I'm in my office, looking at the Ninth Street bridge out the window, and there's some guys working who aren't using correct safety procedures," said Jeff Shockey, Alcoa's current safety director. One of them was standing on top of the bridge's guardrail, while the other held on to his belt. They weren't using safety harnesses or ropes. "They worked for some company that has nothing to do with us, but without thinking about it, I got out of my chair, went down five flights of stairs, walked over the bridge and told these guys, hey, you're risking your life, you have to use your harness and safety gear." The men explained their supervisor had forgotten to bring the equipment. So Shockey called the local Occupational Safety and Health Administration office and turned the supervisor in.

"Another executive told me that one day, he stopped at a street excavation near his house because they didn't have a trench box, and gave everyone a lecture on the importance of proper procedures. It was the weekend, and he stopped his car, with his kids in the back, to lecture city workers about trench safety. That isn't natural, but that's kind of the point. We do this stuff without thinking about it now."

O'Neill never promised that his focus on worker safety would increase Alcoa's profits. However, as his new routines moved through the organization, costs came down, quality went up and productivity skyrocketed. If molten metal was injuring workers when it splashed, then the pouring system was redesigned, which led to fewer injuries. It also



O'Neill never promised that his focus on worker safety at Alcoa would increase the company's profits. However, costs came down, quality went up, and productivity skyrocketed.



Aluminum plants, such as this one in Alcoa, Tenn., are inherently dangerous places. O'Neill understood that safer plants would mean a stronger company.

saved money because Alcoa lost less raw materials in spills. If a machine kept breaking down, it was replaced, which meant there was less risk of a broken gear snagging an employee's arm. It also meant higher-quality products because, as Alcoa discovered, equipment malfunctions were a chief cause of subpar aluminum.

Six months after O'Neill became CEO of Alcoa, he got a telephone call in the middle of the night. A plant manager in Arizona was on the line, panicked, talking about how an extrusion press had stopped operating and one of the workers—a young man who had joined the company a few weeks earlier, eager for the job because it offered health care for his pregnant wife—had tried a repair. He had jumped over a yellow safety wall surrounding the press and walked across the pit. There was a piece of aluminum jammed into the hinge on a swinging six-foot arm. The young man pulled on the aluminum scrap, removing it. The machine was fixed. Behind him, the arm restarted its arc, swinging toward his head. When it hit, the arm crushed his skull. He was killed instantly.

Fourteen hours later, O'Neill ordered all the plant's executives—as well as Alcoa's top officers in Pittsburgh—into an emergency meeting. For much of the day, they painstakingly re-created the accident with diagrams and by watching videotapes again and again. They identified dozens of errors that had contributed to the death, including two managers who had seen the man jump over the barrier but failed to stop him; a training program that hadn't emphasized to the man that he wouldn't be blamed for a breakdown; lack of instructions that he should find a manager before attempting a repair; and the absence of sensors to automatically shut down the machine when someone stepped into the pit.

"We killed this man," a grim-faced O'Neill told the group. "It's my failure of leadership. I caused his death. And it's the failure of all of you in the chain of command."

The executives in the room were taken aback. Sure, a tragic accident had occurred, but tragic accidents were part of life at Alcoa. It was a huge company with employees who handled red-hot metal



O'Neill asked workers to call him at home if their bosses failed to follow through on safety issues. They did call, often with good ideas.

and dangerous machines. “Paul had come in as an outsider, and there was a lot of skepticism when he talked about safety,” said Bill O’Rourke, a top executive. “We figured it would last a few weeks, and then he would start focusing on something else. But that meeting really shook everyone up. He was serious about this stuff, serious enough that he would stay up nights worrying about some employee he’d never met. That’s when things started to change.”

Within a week of that meeting, all the safety railings at Alcoa’s plants were repainted bright yellow, and new policies were written up. Managers told employees not to be afraid to suggest proactive maintenance, and rules were clarified so that no one would attempt unsafe repairs. The newfound vigilance resulted in a short-term, noticeable decline in the injury rate. Alcoa experienced a small win.

Then O’Neill pounced.

“I want to congratulate everyone for bringing down the number of accidents, even just for two weeks,” he wrote in a memo that made its way through the entire company. “We shouldn’t celebrate because we’ve followed the rules, or brought

down a number. We should celebrate because we are saving lives.”

Workers made copies of the note and taped it to their lockers. Someone painted a mural of O’Neill on one of the walls of a smelting plant with a quote from the memo inscribed underneath. O’Neill’s efforts began snowballing into changes that were unrelated to safety, but transformative nonetheless.

“I said to the hourly workers, ‘If your management doesn’t follow up on safety issues, then call me at home, here’s my number,’” O’Neill told me. “Workers started calling, but they didn’t want to talk about accidents. They wanted to talk about all these other great ideas.”

The Alcoa plant that manufactured aluminum siding for houses, for instance, had been struggling for years because executives would try to anticipate popular colors and inevitably guess wrong. They would pay consultants millions of dollars to choose shades of paint, and six months later, the warehouse would be overflowing with “sunburst yellow” and out of suddenly in-demand “hunter green.” One day, a low-level employee made a suggestion that

quickly worked its way to the general manager: if they grouped all the painting machines together, they could switch out the pigments faster and become more nimble in responding to shifts in customer demand. Within a year, profits on aluminum siding doubled.

The small wins that started with O'Neill's focus on safety created a climate in which all kinds of new ideas bubbled up.

"It turns out this guy had been suggesting this painting idea for a decade, but hadn't told anyone in management," an Alcoa executive told me. "Then he figures, since we keep on asking for safety recommendations, why not tell them about this other idea? It was like he gave us the winning lottery numbers."

O'Neill's safety habits created an atmosphere in which other behaviors emerged. Early on, O'Neill took the unusual step of ordering Alcoa's offices around the world to link up in an electronic network. This was in the 1980s, when large, international networks weren't usually connected to people's desktop computers. O'Neill justified his order by arguing that it was essential to create a real-time safety data system that managers could use to share suggestions. As a result, Alcoa developed one of the first genuinely worldwide corporate email systems.

O'Neill logged on every morning and sent messages to make sure everyone else was logged on as well. At first, people used the network primarily to discuss safety issues. Then, as email habits became more ingrained and comfortable, they started posting information on all kinds of other topics, such as local market conditions, sales quotas and business problems. High-ranking executives were required to send in a report every Friday, which anyone in the company could read. A manager in Brazil used the network to send a colleague in New York data on changes in the price of steel. The New Yorker took that information and turned a quick profit for the company on Wall Street. Pretty soon, everyone was using the system to communicate about everything. "I would send in my accident report, and I knew everyone else read it, so I figured, why not send pricing information or intelligence on other companies?" one manager told me. "It was like we had discovered a secret weapon. The competition couldn't figure out how we were doing it."

When the web blossomed, Alcoa was perfectly positioned to take advantage. O'Neill's keystone habit—worker safety—had created a platform that

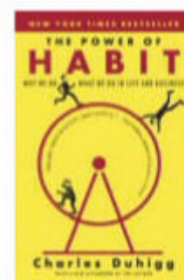
encouraged another practice—email—years ahead of competitors.

IN 2000, O'NEILL retired from Alcoa, and at the request of the newly elected president George W. Bush, he became secretary of the treasury. He left that post two years later, and today he spends most of his time teaching hospitals how to focus on worker safety and keystone habits that can lower medical error rates, as well as serving on various corporate boards.

Companies and organizations across America, in the meantime, have embraced the idea of using keystone habits to remake workplaces. At IBM, for instance, Lou Gerstner rebuilt the firm by initially concentrating on one keystone habit: IBM's research and selling routines. At the consulting firm McKinsey & Company, a culture of continuous improvement is created through a keystone habit of wide-ranging internal critiques that are at the core of every assignment. Within Goldman Sachs, a keystone habit of risk assessment undergirds every decision.

And at Alcoa, O'Neill's legacy lives on. Even in his absence, the injury rate has continued to decline. In 2010, 82% of Alcoa locations didn't lose one employee day due to injury, close to an all-time high. On average, workers are more likely to get injured at a software company, animating cartoons for movie studios or doing taxes as an accountant than handling molten aluminum at Alcoa.

"When I was made a plant manager," said Jeff Shockey, the Alcoa executive, "the first day I pulled into the parking lot I saw all these parking spaces near the front doors with people's titles on them. The head guy for this or that. People who were important got the best parking spots. The first thing I did was tell a maintenance manager to paint over all the titles. I wanted whoever got to work earliest to get the best spot. Everyone understood the message: every person matters. It was an extension of what Paul was doing around worker safety. It electrified the plant. Pretty soon, everyone was getting to work earlier each day." □



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KIDS AND HABITS: A LOVE STORY

WHY THEY'RE HELPFUL, WHEN THEY'RE NOT, AND HOW TO TELL THE DIFFERENCE AND MAKE CHANGE

BY KATE ROPE

MELANIE LASOFF LEVS HAD A PLAN TO HELP HER son Jordan—who was approaching age 2—give up his pacifier before starting preschool. After finding the idea on the internet, she created what she called “an elaborate ritual that would involve several helium balloons that would float it up to the ‘paci fairy.’” She gathered her husband, Josh; their 5-year-old; and Jordan outside for the ceremony. On the first try, the paci fell to the earth with a clunk (not enough balloons). Josh ran out for more, while Levs, now a mom to three in Atlanta, “freaked out.” Jordan sat on the ground with “no idea what was going on,” she recalls. On the second try, the paci took to the sky—while the family yelled exuberantly, “Bye, bye, paci!”—and then promptly got stuck in

a tree. Levs quickly ushered everyone inside, telling Jordan, “Wow! What a big boy, no more paci!” At bedtime, Jordan cried “like his heart was shattered,” says Levs. And at 2 a.m., she caved and gave him the backup. He sucked that one for a year and a half more until giving it up with little drama.

Levs’s paci saga, which she now looks back on with humor, so perfectly demonstrates the unnecessarily fraught relationship parents have with their kids’ habits. The truth is that habits can be incredibly helpful coping mechanisms that ground children in their changing world, and most of the time we can let them run their course. Yes, there are times to intervene, but there are simpler, more effective ways to do so that don’t involve a call to the paci fairy or a trip to the party-supply store.

WHY HABITS AND ROUTINES ARE ANCHORS

SO MUCH OF WHAT HAPPENS IN THE LIFE OF YOUNG children is out of their control and unpredictable, which is why “it’s reassuring to have a habit that they have a say in,” says Susan Newman, a social psychol-





Plush toys, blankets and hearing the same bedtime story over and over again can bring predictability and order to a world that feels too big for a small child.

ogist and the author of *Little Things Long Remembered*. “It gives them some sense of power.” Routines also provide predictability. “When they know how things will go and what to expect, they don’t have to be as worried, especially during moments of saying goodbye to parents,” says Katie Hurley, a child and adolescent psychotherapist in El Segundo, Calif., and the author of *No More Mean Girls*. That’s why habits and rituals flare in times of uncertainty—when children first leave the house to go to day care or school or when they emerge from the “kindergarten bubble” and begin to hear about things that are “overwhelmingly scary, like terrorism or car accidents,” says Hurley. The habits and rituals they cling to in these moments are “ports in a storm of so much change.”

WHAT YOU CAN STOP WORRYING ABOUT

ON THE NO-BIG-DEAL LIST, FEEL FREE TO INCLUDE loveys (blankets, plush toys, one of Mommy’s T-shirts), thumb-sucking and pacifiers (unless your dentist raises any orthodontic issues when your child is around age 4) and other attachment

items that may seem odd but are harmless (one family shared that their daughter—with the blessing of their pediatrician—sleeps with an ice pack every night). “We are so socialized as parents to worry too much about that stuff,” says Hurley. But our concerns are more likely based on external pressures than developmental psychology. “Often the desire to get rid of the raggedy blanket your child clutches is parents giving in to peer pressure or feeling embarrassed,” says Newman. It’s useful to realize that even adults reach for comfort objects and habits: reading at bedtime, watching TV, writing in a journal. “Very young children cope with discomfort by holding on to soft objects and sometimes sucking on them,” says Jessica Lahey, a former middle-school teacher and the author of *The Gift of Failure*. “Don’t ever take away a lovey. They remind them of love and of a time that feels easier.”

HOW TO KNOW WHEN TO CHANGE A HABIT

“WITH ANY KIND OF SELF-SOOTHING, THERE HAS TO BE balance,” says Emily Green, a child and family therapist in Atlanta. “Do we have this behavior we

4 STEPS TO HELPING YOUR KIDS MAKE A CHANGE

1. Pick your moment.

Don't try to get rid of the pacifier when you have just moved to a new house or it's the start of the school year. "Adults think of transitions as a great time to have a fresh start, but try to think about transitions from your kid's point of view," says Jessica Lahey, author of *The Gift of Failure*. You might tell him, "When you move into your big-boy bed, you won't need your pacifier anymore," but the pacifier may be exactly what he needs to weather that scary transition. And bring up the idea in moments of calm, when your child is not in need of self-soothing.

2. Help them understand what's happening.

You can show your child you understand his emotions and help him understand his own by narrating what you see, says child and family therapist Emily Green. "You might say something like, 'It seems like when you're worried, you're sucking your thumb a lot,' 'Seems like when you get anxious you pick your skin and you zone out and your body relaxes,' or 'Seems like your paci helps you feel a

whole lot calmer.' " That enables both of you to connect to what's behind the habit, which will help you find an alternative.

3. Introduce them to other coping strategies.

"Kids have a habit fixation because it's the only thing they know how to do," says psychotherapist Katie Hurley. It's our job to help them discover and develop healthy coping strategies, such

as deep breathing or squeezing Play-Doh. "Even 4-year-olds can learn to use their breath to calm themselves," says Hurley. "Teach them to blow up an imaginary balloon and to do it over and over again until they feel calm." For older children (say, a middle schooler who's trying to stop biting her nails), introduce progressive muscle relaxation—tensing and releasing the muscles of the body in succession, starting at the head and ending at the feet. Another effective strategy is teaching your child to have a dialogue with her "worry brain," says Hurley. For instance, it can help her to say, "I know I can sleep tonight even if I can't hear my special song, because

tomorrow I can listen to it." Or "It's OK that I didn't eat my apples first. I can eat them later."

4. Encourage your child's efforts.

"When we focus on the behavior, we lose sight of the child and then reinforce the behavior we want them to pull away from," says Green. "For instance, if a child is sucking her thumb and a well-meaning adult keeps saying, 'Why are you sucking your thumb?' it just raises their stress level." That makes it harder for kids to change the habit. Instead, Green tells parents to "highlight, track and name when they are engaging in alternative self-soothing behavior, like, 'Look at you using your breath to calm down!'"




can call upon to soothe ourselves, or does this behavior become a compulsion that we can't stop even if we wanted to?" Skin picking and hairpulling, which children often do in times of stress, can "take on lives of their own," says Green, and they can lead to potential health problems, such as infection and loss of hair growth. Green says it's time for parents to intervene when a habit becomes a health issue; is upsetting your child because of negative feedback in environments you can't control (such as school); is interfering with normal development (like small motor skills or speech); or "feels out of their control, and they don't feel like they have other options to handle stress."

FIND THE MEANING BEHIND BEHAVIOR

ALL THE RESEARCH INTO HABITS SHOWS ONE pretty clear outcome: to change a habit you don't want, you must replace it with another behavior you do. And that means figuring out what kind of benefit your child is getting out of the habit. "Anxiety and stress are climbing in kids, so we always say to parents that our biggest job is to think about the iceberg analogy," says Hurley. "When we see kids acting out or finding comfort in rituals, we need to ask, 'What is underneath that?'"

If it's the beginning of the school year, you probably have your answer. "If every single year of your life you had to change your job, have new co-workers, a new boss and new supplies, every single year you would be anxious," says Hurley. Rather than giving your child a big smile and telling her to "have a great day!" when she's clearly worried, Hurley recommends respecting her concerns and talking them through. Ask her what's hard, what's good. Talk through the difficult scenarios she is envisioning.

By discovering and acknowledging the sources of



Creating patterns, predictability and routine are normal and healthy approaches to anxiety. Some kids may eat foods in a certain order or insist that the broccoli *never* touch the chicken.

your child's concern, you will help her manage the transition, build her resilience and lessen her need for habits and rituals to make it through. It will also help you come up with effective alternatives for managing her stress and anxiety.

HOW TO KNOW IF YOUR CHILD NEEDS PROFESSIONAL SUPPORT

IT'S NOT UNCOMMON TO SEE PICTURES ON SOCIAL media of matchbox cars lined up by color or a plate of food with no item touching another, with a caption, "Is my kid totally OCD?" We associate this kind of patterned order with popular notions of obsessive-compulsive disorder. But the truth is that creating patterns, predictability and routine are normal approaches to anxiety. Just think about adults who clean to ease their stress levels. Kids might tap their fingers to match syllables or words in a conversation. Others might eat foods in a certain order (or insist that the broccoli *never* touch the chicken—which, let's be honest, makes perfect sense at a certain age). "When you see kids doing things like that, it's a calming technique that says, 'I'm in control of this,'" says Hurley. If you notice your child engaging in similar behaviors, it's an opportunity to find out what he is concerned about. But it does not mean your child has a diagnosable disorder.

"OCD is debilitating in young children and involves very specific rituals a child feels a compulsion to go through to cope with certain situations, such as getting out the door every morning," says Hurley.

"Normal phases of seeking order will tend to become less bothersome over time and won't disrupt the daily routine," says psychologist Seoka Salstrom, the owner of the Hanover Center for Cognitive Behavioral Therapies in New Hampshire. "OCD and anxiety behaviors tend to grow and become more elaborate and time consuming." Over the years, says Salstrom, "a lot of parents and kids have asked me, 'Is this normal, or is it clinical?' And I say, 'What I care the most about is, Is it working for you? Is it getting in the way of your learning or friendships or of being the person you want to be?'" If the answer is yes, you can find support and therapists for anxiety and OCD through the International OCD Foundation and the Anxiety and Depression Association of America.

Short of those kinds of situations, however, your best option may be simply to watch. Happy children with a habit or a quirk are still happy children. Sometimes the habits are part of what got them there. ▣

4 STEPS TO HELPING YOUR CHILD DEVELOP HEALTHY HABITS

Just when kids have shed the blankies and binkies of early youth, parents often yearn for them to develop new habits that can make family life easier and more tranquil, such as doing chores and tackling homework without a fight. Here are four steps to the next level of behavior change.

1. Avoid external rewards. A recent meta-analysis of more than 40 studies on habit formation showed that external rewards or deterrents—sticker charts, paying for grades, punishment—undermine motivation and aren't helpful for forming good habits. “The reward isn't enough to sustain the habit long-term,” says Jessica Lahey, author of *The Gift of Failure*. “For middle-school kids and older, you really need to be talking with them about why you're trying to develop a habit,” and then you need to be a role model.

2. Model good habit formation. “You may not realize your kids are watching you or paying attention, but they are,” warns psychologist and author Susan Newman, “and I think parents forget that they are the teacher and role model. It's their job to instill the repetition—putting the napkin on the lap, saying ‘thank you,’ helping a

neighbor.” Lahey agrees: “The best way for us to instill good habits in our children is to model having good habits.”

3. Involve your child in the solution. Parents often forget to ask their kids for input into behavior change, says Lahey. She remembers a pivotal moment when she realized that her 12-year-old son was repeatedly forgetting his backpack and she kept commenting on it: “You forget your backpack every day!” One day Lahey thought to say, “When I leave the house every day, I go through this mental checklist: ‘Do I have my keys? Do I have my phone?’ What could you do to solve the problem?” Now age 14, her son came up with his own solution, a morning and an evening checklist, that has helped him keep track of his belongings ever since. “They are going to be a lot more invested in a solution they come up with themselves than



one you come up with,” says Lahey.

4. Give it time. A lot of time. Research into habits says it takes 30 days to form one. For kids, says KJ Dell’Antonia, the author of *How to Be a Happier Parent*, it's probably more like two to three months. And, she says, the parents she interviewed for her book who were most successful at instilling chores as habits had assigned them at a specific time of day and for long periods. “They gave their kids a chore for a year. In our house, we do them by season,” says Dell’Antonia. “You have a vastly greater chance of them remembering to do them.” You can also use a child's love of routine to your advantage. For instance, if you are trying

to teach your second grader to establish a good homework habit, set aside a specified period every day that is homework time. “If they don't have homework, they read for that time,” says Dell’Antonia. “If they finish before the half hour is up, they read for the remainder.”

Know, above all, that you are not likely to experience overnight success. “When we are looking for behavior change,” says child and family therapist Emily Green, “we should be looking for the tiny little stepping stones that create this one behavior.” But the good news is that you can save your energy for the ones that really matter and see them as opportunities to connect to your kids and strengthen your family.

HUMANS AREN'T THE ONLY SPECIES WITH HABITS

ANIMALS CAN GET STUCK IN BEHAVIORAL CYCLES TOO—AND SUFFER JUST AS MUCH AS WE DO

BY COURTNEY MIFSUD

IF YOU VISITED NEW YORK CITY'S CENTRAL PARK ZOO in the mid-1990s, you might remember Gus the polar bear. Gus was brought to New York from Toledo, Ohio, in 1988. A few years after settling into his new home, he developed a peculiar ritual. The 700-pound bear would enter the pool in his habitat and swim laps in a distinct figure-eight pattern, every day, for up to 12 hours each day. Guests were drawn to his peculiar rituals, and the zoo's management took notice.

"It's too repetitive," William Conway, then director of the Wildlife Conservation Society, said at the time. "The first thing you worry about is whether this reflects some physical problem. Is he losing weight? Is his appetite off?" But Gus, who died at age 27 in 2013, was not suffering from any physical ailment. Like many humans, Gus was neurotic.

When animals exhibit eccentric behavior, it's easy for humans to read it as cute or quirky. A dog who chases its tail for hours at a time might seem merely energetic; a cat licking the same spot on its paw might just be fastidious. Sometimes that's true, but often it's not, and animals in our care pay a price if we don't read their signals properly.

"Every animal with a mind has the capacity to lose hold of it from time to time," notes Laurel Braitman, a historian and anthropologist and the author of *Animal Madness: How Anxious Dogs, Compulsive Parrots,*

and Elephants in Recovery Help Us Understand Ourselves. As with humans, an animal's slide into madness may start with something perfectly normal. There's nothing wrong with a cat working to stay clean and groomed, just as there's nothing wrong with your washing your hands before you sit down to eat. But, as Braitman told NPR in 2014, "this tips into mental illness when you do things like compulsively overwash your hands or paws or you develop a ritual that's so extreme that you can't sit down to a bowl of food unless you engage in that ritual."

The compulsive cycle often begins with anxiety, which an animal may respond to by engaging in a behavior that relieves the tension. Later, when the anxiety returns, the animal repeats the behavior, providing only temporary relief and perpetuating the cycle.

Braitman tells the story of Charlie, a macaw from Florida. Charlie suffered through the loss of his primary owner and then the loss of a companion parrot. Seemingly as a result, he plucked and plucked his feathers until he was nearly bald. Plucking is a ritualistic tic that researchers have long observed in animals. Humans suffering from what's known as trichotillomania engage in similar behavior, plucking hair, eyebrows and eyelashes.

"If you have fur or feathers or skin, you can pluck yourself compulsively," says Braitman. "And some parrots actually have been studied to help us better understand trichotillomania." According to Braitman, researchers have observed hair plucking in six primate species in addition to humans. Mice engage in the behavior too, and some even pluck the fur or whiskers off of other mice.

EXPERTS ARE CAREFUL about how they interpret excessive grooming behavior, since they cannot know if animals are actually experiencing compulsive thoughts. "There was a [2006] study that was going to be done in cats looking at what's called psychogenic grooming," Bonnie Beaver of the American College of Veterinary Behaviorists told TIME. "In other words, they were anxious, and so instead of twirling their hair or biting their fingernails, these cats groomed so excessively that they became bald." The study looked at 21 cats that displayed seemingly neurotic behavior, such as grooming so much that they had lost their hair, and found that only two of them actually appeared to have a psychological problem. The other 19 simply had underlying skin issues.

Braitman echoes Beaver's caution. Anthro-

*One study showed that
tail chasers had been
separated from their
mothers earlier than pups
in the control groups.*



morphism, or the tendency to project humanlike traits onto nonhuman subjects, is a tendency of our species. Drivers name and talk to cars as if they're a friend or family member, so of course the phenomenon occurs with living creatures. "We can anthropomorphize well, or we can anthropomorphize poorly," says Braitman. Anthropomorphizing well, she suggests, means at least being sensitive to behaviors in animals that may be a result of psychic pain, and then looking further to find out for sure.

OFTEN AN ANIMAL'S neurotic tendencies can be attributed to environment. Gus the polar bear was enclosed in a 6,000-square-foot habitat that could not remotely replace the Arctic wilderness. "It's impossible to replicate even a slim fraction of the kind of life polar bears have in the wild," writes Braitman. "The animals may be among the most common zoo dwellers to be given antidepressants." During Gus's tenure at the zoo, handlers treated him with Prozac, along with \$25,000 worth of behavioral therapy, including what's known as enrichment—or improving an animal's environment with toys and other distractions.

Although zoos are in place for guests to observe animals, Braitman warns that most animals do not want to be watched, and knowing that a group of people are always nearby can cause stress. Zoos where the exhibits are recessed, like the gorilla habitat in the San Francisco Zoo, require viewers to look down from above, relieving some pressure on the animals.

But it's not only environment that can lead to animal neuroses. A group of French, Finnish and Canadian researchers studied how personal history, genes and environment combined to affect tail chasing in dogs, a symptom of what's called canine compulsive disorder. The team studied 368 dogs from breeds associated with tail chasing—German shepherds and

three breeds of bull terriers. The investigators found that tail chasers appeared to lack certain nutrients and micronutrients, such as vitamins B₆ and C. The study also showed that tail chasers were separated from their mothers earlier than those in the control groups.

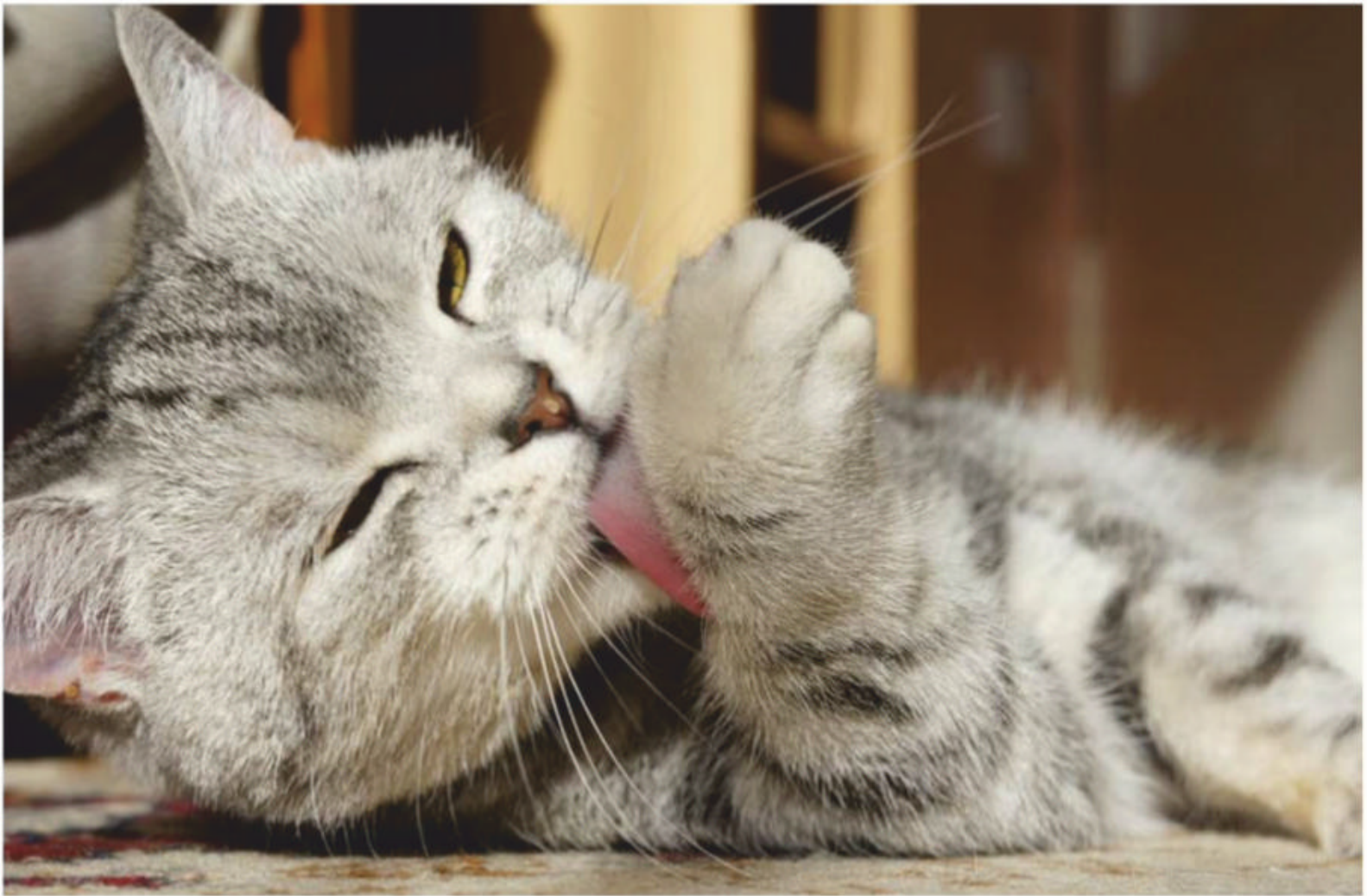
Genes may also play a role in shaping animals' habits. Eight percent of all dogs have obsessive tendencies, but the figure is remarkably higher among Doberman pinschers. According to research done through Tufts University, up to 70% of Doberman pups might demonstrate obsessive behavior. Nicholas Dodman, a professor emeritus at the Cummings School of Veterinary Medicine at Tufts, studied the habit of flank sucking, observed in the breed. Doberman pups often open their mouths against their own flanks, softly close them and begin sucking almost dreamily. After questioning about 100 owners of flank-sucking Dobermans and an equal number of Doberman owners who did not report that behavior, Dodman's team found that the flank suckers had a tendency to hoard and mouth on nonfood substances too. Although many dogs do this, the Dobermans were observed doing so remarkably persistently and compulsively, similar to the behavior of a human suffering from obsessive-compulsive disorder.

MRI brain scans of the Dobermans revealed a neurological correlation between the dogs and humans too. "They showed that in dogs prone to [hoarding] and flank sucking, the gray matter in certain brain regions governing emotional, cognitive and sensory and motor functions was significantly less dense. We have also perceived significant differences in a region connecting the two sides of the brain," wrote Dodman. "As it happens, similar anomalies are found in people with obsessive-compulsive disorder." In addition, Dodman's team isolated a gene that appears to be associated with flank sucking and hoarding, and pinpointed where it is on the canine chromosome, a discovery that could lead to new treatments for OCD in both humans and dogs.

CLINICAL DISORDERS ARE different, of course, from ordinary habits, but the two are reasonably close kin, and understanding one can reveal clues to the other. Ann M. Graybiel, a neuroscientist at MIT, has extensively studied neural activity in rodents. Much of her work involves recording the electrical activity in the striatum, a part of the brain that helps govern motor and reward functions.

Graybiel has found that when rodents are learn-

Animals don't have the same ability to exercise willpower and discipline that we do. Still, animal and human brains are in many ways the same. What we learn studying theirs may help us take better control of ours.



Self-grooming is a pleasure of the feline life, but in some cats it can develop into an unhealthy habit.

ing to run a maze, the neurons in the striatum are active throughout the exercise. But as the animals master the task and it becomes more automatic or, you could say, habitual, the same neurons are active pretty much only at the beginning and end of the runs. The neural phenomenon, which is known as bracketing, is found in humans too. Very familiar activities, such as making a cup of tea, involve a series of mini-steps—boiling water, opening a tea bag, placing it in the cup, pouring the water—that we perform habitually. Our striatum bestirs itself only to start and complete the task.

That leaves open the question of where the rest of the habit is stored if the striatum controls merely the on-off switch. Graybiel and her co-researcher Kyle Smith went looking for the answer in the rodents' prefrontal cortex, a region that plans complex cognitive behavior. They found a bracketing pattern there, too, but one that was developed much later in the learning process.

"This made us think that the final settling of the bracketing pattern in the cortex might be necessary for the behavior to get set as a habit," said

Graybiel. She and Smith then disrupted the activity in the prefrontal cortex by inhibiting a small cortical zone, which blocked the animals from demonstrating the habit. Next, the team had the rodents develop a new habit, before disrupting that piece of the cortex again. After the second habit was blocked, the animals displayed the original habit, which was previously turned off but never really gone. "A behavior that seems automatic isn't really automatic," said Graybiel. "Because there's a piece of brain that can not only monitor the habit but also veto the performance of the habit."

That, of course, is what humans trying to break any habit are hoping to do—to exercise volitional control over something that runs over and over again on neurological autopilot. In the case of animals, it may take the intervention of drugs or actual manipulation of brain tissue to achieve that control—but animals don't have the same ability to exercise willpower, discipline and practice that we do. Still, animal brains and human brains are in many ways the same. What we learn studying theirs may help us take better control of ours. □

SHE DOES, HE DOES

**MORE THAN JUST ANNOYANCES—
THAT WET TOWEL ON THE
BED!—HABITS CAN BE A NEW
FRONT IN THE GENDER WAR**

BY RICHARD JEROME

I HAVE BEEN MARRIED FOR MANY YEARS TO A RADIANT and remarkable woman, among whose myriad virtues is a profound generosity of spirit. The generosity of spirit is required to have been married to me for many years. Mind you, as spouses go, I'm not without a few good points. I'm crazy about my wife, am blind to other women, never drink or touch drugs, wash the dinner dishes and don't go out with the boys—there are no boys, of course, but even if there were, I wouldn't go out with them. On paper, rather a catch, you might think. But then you don't have to live with me. If you did, on a grinding daily basis, you might find me





intolerable. Along with chronic anxiety, a hyperkinetic energy level and a pervasive, Dostoyevskian gloom, is a catalogue of quirks and habits.

The receipts, for instance. Scattered around the apartment floor like a trail of bread crumbs, wedged in chair cushions or left on the bed, from Barnes & Noble Café, the local deli, CVS, an ATM withdrawal dated October 2014. I never throw them out because I don't throw anything out—my shrink says it has to do with a fear of mortality. So they get stuffed in my pocket, only to fly out when I reach in for keys, tissues, Life Savers or loose change. Then there are the plastic water bottles. Partly drunk Poland Springs on the nightstand, the floor (with the receipts) and the living-room tables and filling up the fridge, of course. Some hold barely a sip. I never finish them because—again, fear of mortality—I don't finish anything. Except my wife's sentences. And not in an adorable, “we complete each other” way. In an irritating—and usually incorrect—way, e.g.:

Wife: It looks like—

Me: —Trump will trigger Armageddon.

Wife: —rain. It looks like rain. Why do you finish my sentences in an irritating—and usually incorrect—way?

Then there are the habits of omission: the habit of not cleaning the toilet, of not doing the bills, of not folding my shirts—or even knowing how to. I could go on. Yes, but surely his wife has annoying habits of her own, you say. Actually, after considerable research, the only one I can come up with is her habit of always being right. And I don't mean that in the pejorative sense, as in, she thinks she's always right. No, my wife actually is always right. Which is convenient, because I'm invariably wrong.


Perhaps I shouldn't be too hard on myself, though. Couples, after all, are individual beings before their bodies and souls merge, with many years to develop unique characteristics and patterns of behavior. When two people share a domicile, they naturally bring those behaviors to the table—or bed or bathroom—and only time will tell whether they jibe harmoniously, coexist peacefully or clash, perhaps disastrously. A spring 2018 poll of 1,200 British couples by the jewelry firm Diamond Heaven found that snoring topped the list of grievances, followed by being ignored, constant com-

plaining, blowing off housework and not changing the “loo roll.”

WHILE LITTLE FLASH POINTS like this make for amusing listicles, they actually can have potentially disastrous consequences. What may start as a small annoyance can build as the months and years pass and one partner finds the other's habits more and more aggravating with repetition, causing a disproportionately intense negative reaction.

The term of art is “social allergen,” coined by the husband-and-wife research team of Michael Cunningham and Anita Barbee, psychologists at the University of Louisville who have studied young dating couples for some two decades. The idea is that certain social behaviors, repeated over an extended period, can elicit the same kind of effect as a physical allergy. “With a physical allergy, a little thing can build up over time and trigger the immune response, whether it's a little piece of pollen or dust or something else,” Barbee says. “What we're interested in is the emotional irritation or disgust from these little behavioral habits, annoyances that may not affect everybody the same way, just as everyone may not be allergic to a particular nut or food. What are these seemingly minor things that affect feelings of positivity toward one's partner, how do they build up and play out?”

In the early rapture of a new relationship, people are often hypervigilant about putting on their best possible face; even if they're aware of their own foibles, they take pains to mask or suppress them. By the same token, sexual attraction and romantic passion may cause one partner to overlook the other's more unappealing quirks—sure, he spits on the sidewalk and cracks his gum, or she whistles while she's getting dressed. But those



Certain social behaviors, repeated over an extended period, can become what's known as a “social allergen,” eliciting a negative reaction analogous to that of an actual physical allergy.

lips! Those eyes! That cute little thing they do with their . . .! Over time, however, repeated exposure—especially under the same roof—can exhaust a lot of that charm. Unless your loved one is an extraordinarily gifted actor, his or her true self will come out, warts and all. Familiarity may not necessarily breed contempt. But it can make that endearing little quirk distinctly less adorable.

“Repetition can eventually wear one partner down, and they become less tolerant of the habit,” says Jeremy Nicholson, an assistant professor at the Chicago School of Professional Psychology. “While they might be able to ignore the first dozen times their mate leaves a wet towel on the floor, by the hundredth time, it could become a screaming fight. They metaphorically become ‘allergic’ and unable to tolerate the behavior after repeated exposure to it.”

Barbee, Cunningham and other behavioral psychologists have come up with a kind of classification scheme for these allergy-inducing behaviors and habits. Generally speaking, they tend to group habits in terms of whether or not the behavior is intentional—and purposely aimed at the other partner. “When a behavior is both unintentional and not personally directed at a partner, it is considered an ‘uncouth habit,’” explains Nicholson. That seemingly straightforward term encompasses a range of physically gross or rude behaviors—displaying poor hygiene or grooming, leaving beard or mustache hair in the sink, chewing with one’s mouth open, public flatulence, failing to clean up nail clippings, crumbs and other messes, or otherwise showing poor manners. And of course, that all-time classic bro move: leaving the toilet seat up.

When the offending behavior is unintentional but personal, it’s categorized as an “inconsiderate act.” Say the partner is chronically late or self-absorbed in conversation—expecting constant, disproportionate attention while being generally inattentive in return. Certainly, the ubiquity of technology and the relentless urge to check one’s cellphone have added a whole new dimension to the inconsiderate act. “No matter what the distraction, the individual is preoccupied,” Nicholson says. “And such behavior could have a negative impact on a relationship—especially if it occurs frequently and persists over time. So, unless you are texting to your partner across the dinner table or playing a video game with them, repeatedly ignoring them to attend to a phone could become a problem.”

Another category of habit, “norm violations,” involves intentional behaviors that violate “standards of propriety but are not personally directed,” Barbee and Cunningham suggest in their study, “such as the partner drinking to excess, avoiding work or flirting with other people.” While any of these may not be done with malice, designed to wound or irritate a partner, this sort of behavior can nevertheless inflict serious emotional pain.

“Finally, when the habit is both intentional and personal, it’s classified as an ‘intrusive behavior,’” Nicholson says. “This includes constant criticizing, acting unjustifiably jealous, ordering your partner around or being unduly possessive and controlling.”

What about gender differences? Are men and women equally prone to irritating habits, or does one sex have the edge? Are particular categories of habit more common to males than to females? Barbee and her team specifically addressed these questions in their 2005 study of 161 college students. Based on the participants’ assessments of themselves and their partners, the researchers found that men and women were about equally likely to have some kind of bad habit, though certain habits were indeed more common among one gender than another.

For example, men reported (and women agreed) that they were more likely to be uncouth than their female partners. They may hide it early on in a relationship, but eventually they let their guards down. “Over time, a guy’s gonna be more confident,” Barbee says. “He’ll start to say, ‘I want to be me. I want to be authentic. I want you to love me for me—and part of me being me is walking around the house in holey T-shirts or whatever or not showering for three days in a row because I’m so into my project or my art.’ Culturally, males are allowed to be that way. It’s part of the whole hypermasculinity thing.” Barbee says men were also more likely to violate norms, noting the mystique of the rebellious, insouciant “bad boy.”

On the other hand, according to her study, some habits tend to fall into the female category. For instance, women reported (and men agreed) that they were more likely to act inconsiderately than their male partners—being self-absorbed, craving attention. Women also displayed more of the habits classified as intrusive behavior—jealousy, criticism, seeking to control.

“The fact is, we [women] control most relationships,” Anita Barbee says. “We haven’t quite



In polls, men tend to say they share housework evenly, but women say the guys aren't really doing their share. Still, in some relationships, she's the slob and he's the fussy one.

reached equality and decided that women can be aggressive, but when you start to dig into a relationship, you see how much we dominate, though people don't necessarily see it as control. If you see some of the things women do in a relationship—picking your clothes out, telling you what to eat, dictating what movie you're going to—if a man did some of those things, you might say he was showing traits of a domestic-abuse perpetrator. But when a woman does it, we'll say, 'Men can't dress themselves, of course she has to do it.' And if you're in the relationship and you're living it, you might say, 'If she's dressing me, it shows she cares.'"

Certainly, all habits aren't created equal. "Behaviors such as criticizing and controlling or drinking to excess and missing work tend to have the most negative impact on relationships," Barbee says. "Nevertheless, particularly over time, repeated uncouth or inconsiderate behaviors can significantly reduce long-term relationship satisfaction as well."

It's also worth remembering that habit clashes don't play out in a vacuum and that many different factors shape a marriage or relationship. Annoyances aside, is the union on firm ground, or are there other fault lines? Do the partners genuinely love each other? Do they actually discuss their issues and differences? "If partners communicate poorly with one another, these issues may not get addressed until they are a serious and stressful problem," Nicholson says. "Or they may get addressed in a way that increases the tension and hard feelings around them."

SO WHAT ARE some ways couples can make peace with each other's habits—is there an app or a life hack to keep friction from becoming combustible and destructive? Or are habit-riven partners doomed to split, or else live out their unions in an acrimonious bicker loop? "Couples should try to address these issues when they first become a minor

annoyance, rather than letting them bottle up and allowing the resentment to fester,” Nicholson suggests. “After all, the most common of these habits are often unconscious and not personal. So a quick, positive and heartfelt discussion, while everyone is still calm, might be enough to make a partner aware of their habit—and take care of the issue.”

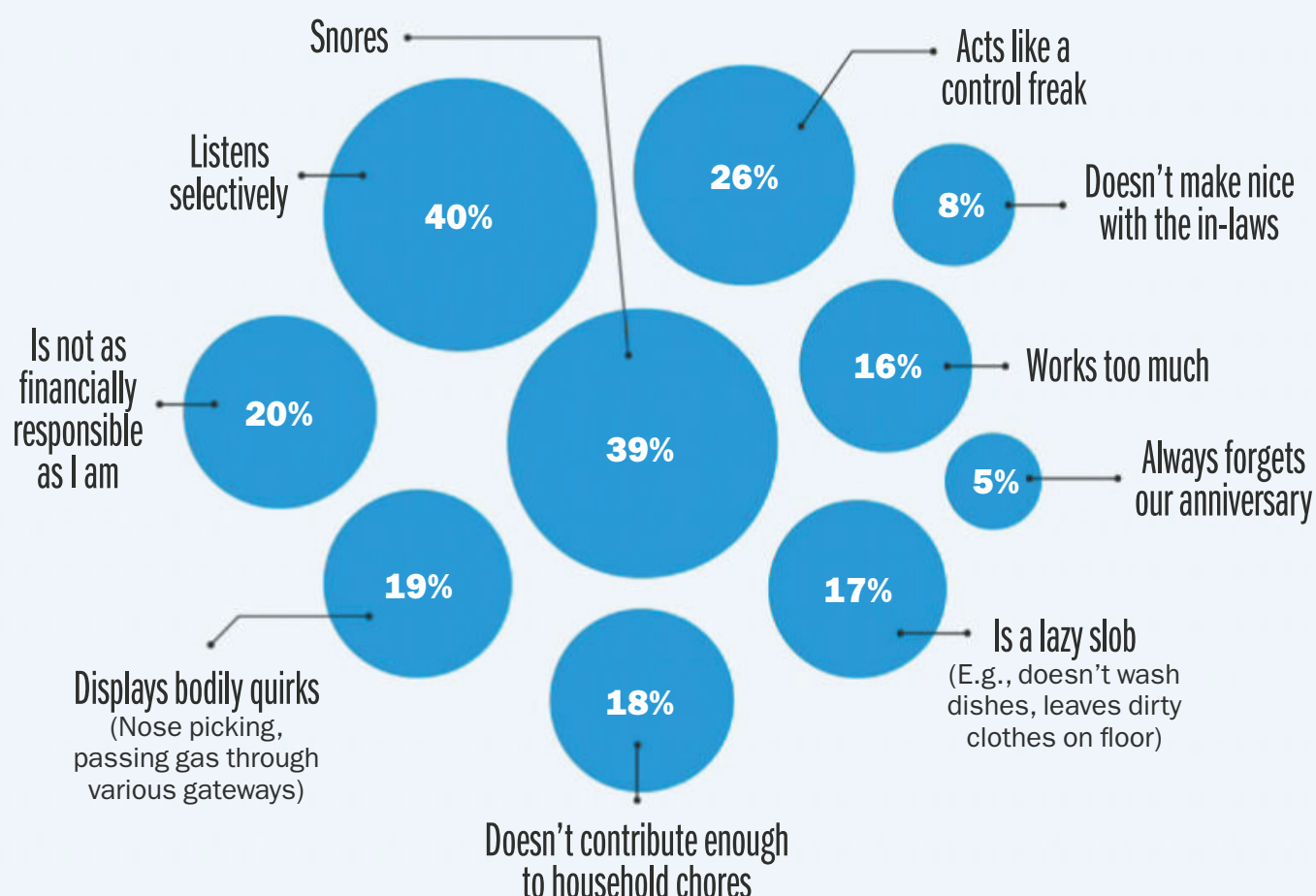
In a perfect world, that would work well, and everyone would live happily ever after. But the expression “old habits die hard” didn’t come from nowhere; confronted with their flaws and missteps, some people get defensive, double down or lash back. “Arguing and punishing might feel like a good idea, but it rarely solves the problem,” Nicholson says. “Instead, couples should talk about the motivation around the habit—why is it so important for one and so uncomfortable for the other? Look for points of agreement and

alternative solutions. Perhaps a simple fix, like a more convenient hamper in the bathroom or a no-cellphone date night, could still be a win-win solution for everyone.”

Something else to remember is that carrots sometimes work better than sticks—if your partner makes a good-faith effort to curb an irritating habit, a little shout-out can go a long way. “It might be easier to spot the two times a partner lapses—and then start to criticize them—rather than notice the 10 times they do well and offer them some praise. Nevertheless, if you want them to continue doing well, do your best to support and acknowledge when they do it.” Besides which, constant criticism can be a habit in itself. “So if you find yourself repeatedly doing that with a partner over their habit—you might have something to work on yourself.” □

10 HABITS THAT ANNOY YOUR SPOUSE

In January 2018, the website NationalToday.com surveyed 1,035 married people across the country and came up with a dirty-laundry list of their significant others’ most infuriating habits. Overall, the respondents said it irks them most when their beloved:



EMBRACING FAMILY HABITS (MOST OF THEM)

**PEOPLE WHO LIVE TOGETHER
DEVELOP MANY ROUTINES.
THE RIGHT ONES MAKE FAMILIES
STRONGER**

BY BONNIE ROCHMAN

YOU'VE HEARD IT BEFORE: THE FAMILY THAT PLAYS together stays together—and the family that prays together too. Then there's the family that eats together or vacations together or works on home projects together. In fact, pick nearly any shared activity and the outcome is the same: parents and children who establish habits, routines and rituals build bonds and have healthier, hardier relationships.

"Humans are funny animals," says Pepper Schwartz, a professor of sociology at the University of Washington. "We like shiny, bright new things—let's not go to the same old place—but there is also great comfort in the familiar. This is who we are as a family, this is what we know, this is what we do. It's a habit thing."

Habits, routines, rituals and traditions all share common DNA: an event or activity that is repeated over time. But there are important distinctions too. Habits (grace before meals, for example) don't necessarily involve planning or sequence and are so ingrained that you might do them unconsciously. Routines (laying out backpacks and shoes the night before an early start) are designed specifically to create stability and make life run more smoothly. Meanwhile, ritu-

als go a step further and pack emotional significance (think turkey and cranberries at Thanksgiving dinner, year after year). And traditions are simply rituals with staying power, passed down from generation to generation. Of course, there's plenty of overlap among these categories. Nor are these definitions scientific; they're perceptions. No matter what you call a shared behavior, whether it's an ingrained habit or a tenderly constructed tradition, what counts is continuity.

"Families connect through our joint activities that we do over and over," says William Doherty, a professor of family social science at the University of Minnesota and the author of *The Intentional Family*. "We are lions, not tigers—we are pack animals. We crave connection."

Think back to your own childhood. Most people don't remember the day-to-day of growing up, but they remember the rituals and routines—how school lunch consisted of PB&J, Pringles and an apple every single day, how summer's apex was always that trip to the Jersey Shore.

Structure is the backbone of parenting; it gives children a sense of security and belonging by offering predictability and consistency, two of the most important pillars of child development. "Kids are natural ritualists," says Doherty. "They will watch the same movie over and over and want to read the same story at bedtime. If you establish a bedtime or meal routine, they will enforce it. If you don't establish enough habits, there is chaos."

Family dinner is perhaps the best-known family routine; its effectiveness at knitting families together has been debated, but there are scores of studies that do back it up. There's common sense too. Sitting down together to share food, discuss the day's activities, talk about current events and review family schedules can bring families closer. As the director of the Family Resiliency Center at the University of Illinois at Urbana-Champaign, Barbara Fiese has spent decades studying the impact of rituals, particularly shared mealtimes, within families.

The clear message is that families who gather together to eat three or four times a week have healthier, better-adjusted children, she says. For one thing, kids who dine at least three times a week with their parents have a lower risk of developing eating disorders and being overweight or obese, according to her research published in 2011 in *Pediatrics*. But there's much more to shared mealtimes than merely developing good eating habits.





Shared mealtimes can be a very healthy family habit, but the power is in sharing not just the food but the time together as well. So off with the TV and other screens.

“These gatherings are just 18 minutes on average,” says Fiese. But it’s not just the act of convening in one place that’s important; it’s the connections that happen when families interact during the meal and show concern about one another’s daily activities. “Parents tell us this is the best way to check in and monitor kids’ emotions, moods and activities.”

Then, too, there’s a sort of family branding that comes from mealtimes—a repetition that kids come to count on. “It makes you feel that you belong to this group that is bigger than yourself,” says Fiese. “It gives you an added layer of identity so that you can say, ‘This is who we are as a family. We are a family who respects each other, who laughs a lot, who eats pizza on Thursday nights.’”

Over time, these labels establish a collective identity larger than your personal identity. “They differentiate you from other families and make you feel that your family is special and that you are a member of this very special group,” says Fiese.

Bedtime is another important ritual, often the first that families establish. After all, what parents don’t want their kids to sleep through the night? Bath, book,

song, story—or some combination thereof—signals to babies and young children that it’s time to go to sleep.

Acknowledging that habits tie families together is easy; what’s harder is figuring out the mechanics of establishing ongoing rituals. Experts advise starting small. Instead of pledging to do dinner seven nights a week, start with three and see how that works out. Turn one ritual—dinnertime—into many by enlisting the kids’ help to plan menus and cook. Combine purchased food with freshly prepared ingredients to make meal prep easier.

That kind of practice pays additional dividends, as developing new habits and rituals can be incorporated into daily chores. Young children can help sort laundry or search for items at the grocery store even while confined to a shopping cart. “See these opportunities as a time to bond with your child in the context of what you’re already doing, because that’s going to be most sustainable,” says Claire Lerner, a senior parenting adviser at Zero to Three, a national nonprofit focused on the importance of the early childhood years.

The earlier that parents start implementing family habits, the better. Research shows that one way rou-

tines influence healthy development is by teaching children how to collaborate and take others' needs into account, says Lerner. They also teach kids how to take care of themselves while building responsibility; even a toddler can make a habit of putting dirty clothes into the laundry hamper. "The time it takes to establish habits has a huge payoff," says Lerner. "Now you have kids who are helping. As they grow, you are not doing all their laundry, all their meal making, all their packing. And you are helping them grow into capable adults."

Not sure how to begin making this matter to kids? You might start by noticing a family routine and deciding to attach more significance to it. When Doherty's children were young, he and his wife would light a candle at dinnertime. They tried it a few times and saw how it relaxed the kids, so they decided to make it a constant. "First you recognize something that you're doing, then you elevate it to the status of ritual by committing to it," he says.

Of course, if habits can be good (family game night), they can also be bad (leaving dishes piled high in the sink). It will come as no surprise that one contemporary bad habit that many families have unwittingly incorporated into their daily lives is a reflexive reliance on technology, which scatters attention and makes bonding nearly impossible.

To analyze the effects of distraction on families, a 2015 study by Fiese and colleagues exposed half of a cohort of 60 families to a loud vacuum; the other half didn't hear the noise. Fiese found that the vacuum families ate more Oreos and spent less time engaged in "positive communication."

The operative variable was not the vacuum cleaner but the distraction it caused, and cellphones during family time have the same effect. This underscores the need to encourage a habit that families in earlier eras could not have imagined: "The routine that families need to adopt now," says Fiese, "is to unplug."

If your family has allowed bad habits to take root, it's not too late to weed them. "There is a reason kids have parents," says Lerner. "You are the decider." Don't ask kids what they think about congregating at the table or setting aside their phones during mealtime; tell them what the new ground rules are and stick to them, firmly but lovingly. (It can't hurt to prepare for some eye rolling.)

Speaking of eye rolling: while creating family habits may sound good to parents, children—especially

recalcitrant teens—may not be quite as enthusiastic. It can be useful to assign standoffish kids a job to make them feel more involved or ask which aspect of preparation they're most interested in. Their opposition may crumble—or your powers of parental persuasion may get a workout. Or both. It can also be helpful to practice the art of compromise, acquiescing to teens' desire to go be with their friends—after they work up a sweat in the family's traditional weekend soccer scrimmage.

As the kids get older, it can be a good idea to reassess your family's habits and rituals. Habits can morph into traditions and vice versa. When a tradition becomes a habit, there is the potential for it to chug along on autopilot even when the initial reason for it no longer exists. Still subjecting your 14-year-old to the same nightly pre-bedtime song you crooned when she was a preschooler? It might be time to reevaluate. If you're rigid and don't allow flexibility, a once-treasured ritual can lose its power. "That's the balancing act," says Doherty, who swapped story time with his daughter for a weekly Dairy Queen date once she became a teen. "As kids get older, you have to adapt."

Families may find that some traditions come to a halt after the death of the person who was powering the ritual—say, a grandparent. If it's something that makes you feel warm, cozy and connected, it's worth the effort to pass the mantle to a new generation and continue the tradition. But if it feels alienating or awkward, take the opportunity to sunset the old tradition in favor of something that feels like a good replacement. The hard truth is that not all members of a family enjoy all traditions anyway. Perhaps church on Sundays has been the norm for your family, but over time your children have become agnostic. You may need to attend church on your own or as a couple without forcing the kids to come along. "You bow and you flex and you realize it's not the same, but it still holds a kernel of the original," says Schwartz. "You don't want to push something uphill. You want to make sure everyone feels good about it."

That's because the power of habit lies in the bonding that comes from doing the same thing over and over. In fact, when siblings grow up and start their own families, much of their continued connection is fueled by shared history, which itself is fueled by shared routines and rituals. "They will have good memories or bad memories," says Doherty. "You might as well create good ones." □

THE FUN WAY TO MAKE FITNESS STICK

WANT TO SHAPE UP? TURNING EXERCISE INTO A GAME CAN GET YOU INTO THE ROUTINE FOR LIFE

BY LISA LOMBARDI

IN OUR QUEST TO GET FIT, WE HAVE COME TO ACCEPT that in order to find success, we must be miserable. We endure punishing workouts, choose gyms that promise “no pain, no gain” and sign up for hot yoga and hot spinning that leave us feeling, well, hot. We buy fitness tanks emblazoned with mantras like “It’s my workout. I can cry if I want to.”

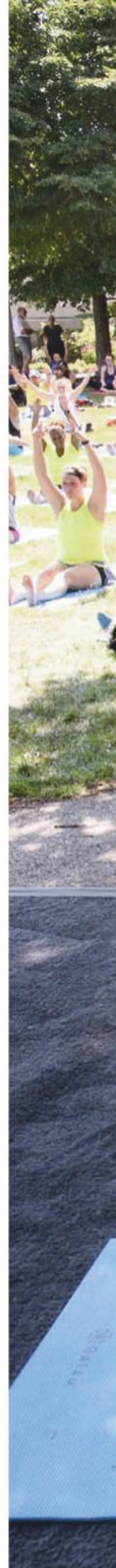
But what if we’re doing fitness all wrong? There’s growing evidence that to get into a healthy exercise groove, we might want to make our workouts a little more (gasp) fun. One study of people who were previously inactive and started an exercise routine found that those who enjoyed their activity were more likely to stick with it.

“Anything that is good for you—a should—and

then is tweaked to make it fun—a want—becomes a must,” says motivation expert Michal Strahilevitz, a professor of behavioral economics at the University of Wollongong in Australia. “Making exercise fun transforms it from being a chore you can skip to a healthy addiction you must do.”

Think about it: when was the last time you saw a bunch of kindergartners on a playground groaning, “Ugh, I have to keep playing on these monkey bars”? They don’t, because who wants fun to end? Whether you enlist a buddy to accompany you to workout classes, play *Dance Dance Revolution* in front of your TV or join the plank challenge at the local yoga studio, you’ll be stimulating the reward center of the brain and increasing the odds you’ll want more.

And more is what we all clearly need: the Department of Health and Human Services recommends that adults get 150 minutes of moderate or 75 minutes of vigorous exercise each week. These are some strategies to build an exercise habit into something you enjoy:







To compete with each other in a tennis match on their Nintendo Wii, these brothers in the Netherlands, Jacob, left, and Jonas, must stand up and run around.

THE BUDDY SYSTEM

FITNESS EXPERTS REPORT THAT ONE OF THE BEST ways to cement an exercise habit—which takes about six weeks, according to Canadian research—is to do it with a friend. That makes sense. Friends keep us accountable (we don’t want to let someone down, so we’re less likely to blow off that workout). Friends also relieve the boredom factor (you can laugh about the crazy woman in the front row at SoulCycle or the man you saw running in his dress shoes). And having someone by our side can ease our everyone-in-the-gym-is-looking-at-me anxiety. Research shows that we release more endorphins when we work out with others, and endorphins are force multipliers for fun.

Another appeal of buddy workouts? They feel like a treat. It’s time with a person we like, after all, a small vacation from daily routines, says health and wellness coach Carol Phillips, author of *52 Simple Ways to Health* and founder of Health Design (health-designnh.com), a New Hampshire–based company that organizes wellness plans for companies.

“We’re social creatures,” she says. “When we plan

to exercise with other people, we tend to look forward to it, feel an obligation to show up and view it as time off from our working lives.” Hikes, walks and runs go that much faster when you’re LOL-ing about last night’s episode of your favorite reality show instead of OMG-ing about how you still have half a mile to go.

Here’s a tip to up your game even further: consider buddying up with a friend who is in better shape than you are. Friends influence our behavior in all areas of life, and much like your friend who was always persuading you to cut class in middle school, your workout partner can be a detriment if she likes to blow off the gym for rich coffee drinks and muffins. But as with your other friend who was forever encouraging you to join all-night group study sessions, you can get a lot from following the lead of someone who is seriously committed to physical fitness. In fact, a 2016 study published in the journal *Obesity* found that the greater the number of fit friends who entered an obese person’s world, the more weight that person tended to lose.

What makes this kind of collaborative fitness regimen easier is that there are so many ways to friend-

up for physical fitness. Train for a 5K together. Set a weekly date to go to spin class. Meet for an after-dinner speed walk. Play tennis or squash. That may seem very elitist or *Mad Men*-ish, but hitting some balls around might be just the break you need from your solitary slog on the StairMaster, and it can be emotionally satisfying to smash something after a long day of dealing with annoyances.

If you don't have a sporty buddy in your life, you're not doomed. You can join a team and make new friends, especially with a little online help. Squadz, an app invented by a Johns Hopkins student, plugs you into open gyms and pickup games nearby. It also lets you set up your own games and put out a call for players, from one more basketballer for a five-on-five to a partner for a doubles tennis match. An online community, ZogSports, lets people in seven cities get in on local pickup games of soccer, basketball and other sports.

YOU COMPETE, YOU WIN

Turns out, being a sore loser can be a good thing. Adding the element of competition can get you more hooked on working out, according to a University of Pennsylvania study published in *Preventative Medicine Reports*. Researchers created a fitness initiative and sorted students into four groups with different interpersonal dynamics: two with a competitive element, one with a support element and one control. They were all encouraged to attend workout classes. At the end of 11 weeks, the two groups with a competitive element (one group faced off in teams, the other individually) had 90% higher attendance rates than the control group and the friendly-support group. "Social comparison," the researchers concluded, "can be surprisingly effective for motivating desirable behaviors."

Jennifer Safrey, owner of Emerald Yoga in Pembroke, Mass., has seen this effect in action at her studio. "We gamify our practice with monthly challenges," she says. The contests range from a plank-a-day challenge to attendance competitions. In all of them, participants are facing off against themselves—working to beat their last performance—so everyone who completes the challenge wins a prize.

"There are those who say this cheapens yoga," Safrey says, "but I think that's shortsighted." The way she sees it, her game board is a win-win: "The students—all adults—love putting up stickers and checking their progress. They get the benefit of more


practice, and I get the benefit of keeping my business healthy."

THE JOY OF EXERGAMING

Then again, you don't even have to leave your house to have a blast burning calories. Getting active through video games is a proven way to make people more active, says Jamie Gruman, author of the book *Boost: The Science of Recharging Yourself in an Age of Unrelenting Demands*. "Research shows that they [exergames] provide an effective light-to-moderate workout," he says.

One study on children published in the *Journal of Applied Behavior* illustrated this point, showing that exergaming increased the amount of time kids participated in physical activity. "It's no wonder," Gruman says. "They're fun." Most of the Xbox and Wii games like *Just Dance*, *Zumba Fitness*, *Dance Dance Revolution* and the Wii Fit offerings (like *Hula Hoop*) are excellent for beginners and provide a light-to-moderate energy expenditure. If you're looking for a more intense workout, you might want to invest in one of the workout bikes that incorporate video games, because they give a bigger burn and keep you working longer and harder than you might on a stationary bike alone.

Or try exergaming in the great outdoors. Apps like *The Walk* and *Zombies, Run!* put you in the middle of an action-adventure game to make the workout minutes more of a thrill than a drag. For instance, in *Zombies, Run!* you're one of the only survivors of a zombie apocalypse and have to run supplies and rescue other survivors. Wacky as they seem, these two apps increase people's motivation to exercise, according to a randomized study. (*Zombies* will do that to you.) Just try not to scream too loudly as you run around your neighborhood, especially if you're one of those 5 a.m.-workout types.



Fitness experts report that one of the best ways to cement an exercise habit—which takes about six weeks, according to Canadian research—is to do it with a friend. That makes sense.

Our lives are already full enough with must-do jobs, and it takes discipline to perform them. But we always show up for something we like to do. When that thing is exercise, it can pay very big dividends.



BET ON A FITTER YOU

MAYBE YOU'VE SEEN EXERCISE APPS LIKE FITCOIN, Sweatcoin and HealthyWage that dangle cash prizes and you've wondered if there's anything to them. Wagering cash or being incentivized to shape up with some other kind of financial reward can in fact lead us to work out more and even drop pounds, though the payoff may just be short-term. In one study, published in *JAMA*, University of Pennsylvania researchers enrolled people in a weight-loss program. One group wagered their own money that they would shed weight, one group stood to win prize money if they reached a weight-loss goal, and another group was a control with no money on the line.

The two groups with incentives lost significantly more weight than the control group did, with the dieters who had bet their own cash losing the most pounds. At seven months, all groups had regained at least some weight, although the incentivized groups weighed significantly less than they did at the beginning and the control group didn't.

Other researchers have investigated whether gym attendance goes up when people are offered prizes and rebates for showing up and working out often enough. A 2017 study found that people who were entered into a lottery as a reward for attending weekly exercise classes did end up spending more time at the gym. The nature of the reward made a difference. A tangible prize of some kind—cash or a gift, say—appeared to be more of a draw than a discount or a rebate on a gym membership. A different study reported that rebates did tend to boost attendance at first—but after a while people went back to slacking off.

You don't need a gym, of course, to offer you rewards. You can reward yourself with little goodies along the way. "If you ever feel you're lacking moti-

vation, try to incorporate incentives into your routine," suggests marathon runner Stephanie Blozy, who has a master's degree in exercise science and owns Fleet Feet in West Hartford, Conn. Her suggestions: to keep each other accountable, make a bet with your friend on how often you'll work out or treat yourself to a massage after one month of sticking to your diet-and-exercise routine.

"You'll be surprised how effective these small treats are in sustaining a long-term lifestyle," she says. Blozy discovered the power of treats while training for her first marathon. "My sister used to reward me after each Sunday's run with running gear—everything from socks to headbands. While those long runs seemed daunting, I looked forward to earning my prize and spending time with my sister as we cranked out the miles."

Even the best external rewards have a comparatively limited effect, however. "The reason has to do with the psychology of motivation," explains Gruman, who was not involved in the research. "Motivation is a continuum from intrinsic motivation at one end to extrinsic motivation at the other. We tend to persist at tasks we find intrinsically motivating, meaning they are inherently enjoyable." When it comes to exercise in particular, he adds, we're more likely to keep at it if we consciously think about how working out helps us achieve goals that matter to us or meshes with our self-image.

This is what trainer Jillian Michaels meant when she would urge contestants on *The Biggest Loser* to "find your why" of working out. For some of us, that "why" may be to lose a few pounds and fit back into our favorite jeans. For others, the "why" is wanting to overcome a health issue (say, high cholesterol), to be active enough to run around after our kids, to get in shape for a biking trip through Italy or simply to clear our minds every day with some fresh air and vigorous activity.

TRACKING YOUR BEST EFFORT

GOING FOR A WALK FOR EXERCISE CAN BE A YAWN. But add a Fitbit or smartwatch to track your steps and suddenly you're going for a personal best. Trackers, which include everything from basic pedometers that count steps to higher-tech devices, like smartwatches that measure heart rate and other metrics, provide another thrill too. It's the rush of seeing how much exercise you can tick off just by doing what needs to get done anyway (commuting



Fitbit hosts different kinds of workouts for its wearers in several cities, including this one at Yards Park in Washington, D.C.

to work, 3,807 steps; trudging across Costco, 908 steps; walking the dog, 2,559 steps; making round-trips to the school front office because your kid forgot a book, 400 steps). No wonder the fitness-tracker market is expected to top \$60 billion by 2022, according to ABI Research.

There isn't much evidence showing that trackers actually get us in better shape (in fact, in one study the group wearing the trackers gained pounds), but many experts insist they play an important role in establishing a fitness habit. To get the best results, make sure you choose a tracker that lets you set goals and alerts you on those occasions you've gotten extra sedentary.

PLAYGROUND GAMES COUNT TOO

DO YOU KNOW THAT NBA PLAYERS, INCLUDING THE Miami Heat's Dwyane Wade, play games like dodgeball to increase their agility? Some even play tag, as in "Tag, you're it!" Superstars or not, they've found that tag has a remarkable array of benefits. "It helps build social bonds, helps us connect with our body in an unvain and fun way and gets the blood pumping," says Dan Roberts, a celebrity trainer in London. In New

York, there's an entire gym, Throwback Fitness, dedicated to getting active just the way you did at recess and in summer camp. In fact, the company's website promises you can "peg an opponent with a dodgeball."

There's a body benefit to introducing old-school movements: research has shown that when we change up our workouts, we enlist different muscle groups and challenge our body in a fresh way. "The new movements force the body to work differently regarding muscle strength, balance and [getting] oxygen to the entire body, which improves our fitness level," says Phillips. "A different mode of exercise forces our brain to work harder, which stimulates new-cell growth." And not to mention, novelty is a proven way to keep us from getting bored.

Just keep in mind that "fun is in the eye of the beholder," stresses Strahilevitz. If the idea of pegging someone with a dodgeball sounds as much fun to you as having your braces put back on, find your own bliss. Our lives are already full enough with must-do jobs, and it takes discipline to perform them. But we always show up for something we like to do. When that thing is exercise, it can pay very big dividends. □





BAD HABITS

CHAPTER

2

SCIENCE IS
SHOWING HOW
HABITS AND
ADDICTIONS
ARE FORMED
IN THE BRAIN—
AND HOW WE
MAY BE ABLE
TO CHANGE
THE WORST OF
THEM.

HABITS THAT ARE WORSE THAN HABITS

OBSESSIVE-COMPULSIVE DISORDER AND BEHAVIORAL CONDITIONS SUCH AS COMPULSIVE GAMBLING ARE LIKE HABITS IN SOME WAYS—AND UNLIKE THEM IN MANY MORE

BY RICHARD JEROME

MARK WAS A 30-YEAR-OLD CHEMIST CONSUMED with the idea that he was being contaminated at the laboratory where he worked. Worse, he was convinced that he was spreading that toxicity around the home that he shared with his wife, Heather, also a scientist. Everywhere he looked, Mark envisioned chemical contaminants—on trash cans, floors, shoes, in the bathroom and on tabletops. Not that he necessarily thought that he or Heather would contract a disease, but the sense of being tainted, unclean, was overwhelming, fueling a level of anxiety so profound he feared it would cause him physical harm.

To control these feelings, Mark took what he saw

as precautionary measures—avoiding objects that might have touched the floor, showering at least twice a day, washing his hands excessively, scrubbing counters and other surfaces with bleach. At work, he cleaned and recleaned his laboratory instruments and changed his protective gloves more than 30 times a day.

Heather tried her best to accommodate her husband's protective rituals. Though she loved to go camping with friends, she knew it provoked crushing anxiety for Mark, so she would make an excuse whenever they received an invitation. Since Mark was certain his contamination spread to the couple's shower curtain, Heather changed it weekly. At her husband's request, she also took frequent decontamination showers and cleaned household items to keep their home "safe." When Heather failed to reassure Mark or follow his hygienic practices, he'd lash out at her. The pressure and tension of enabling her husband's routines strained Heather to the point that their marriage was in danger of coming apart. At last, the pair sought counseling.

Obsessive-compulsive disorder can completely unravel the lives of its sufferers, causing them to sift through trash for hours, for example, or continually check to make sure that ovens or appliances have been turned off.





The outward manifestations of hoarding, such as piles of old newspapers and decaying trash, may make for entertaining television, but the disorder is difficult to treat.

When treatment began, Mark reported spending more than eight hours a day thinking about contamination and engaging in “protective” rituals that had become so oppressive that they spilled over into the realm of pathology. These were habits—but a pernicious species of habit.

“The term ‘compulsive’ has lost its meaning in our vernacular,” says clinical psychologist Jon Abramowitz, a professor at the University of North Carolina at Chapel Hill and an authority on obsessive-compulsive disorder (OCD) and anxiety disorders. “Many people refer to any sort of repetitive behavior as compulsive. From a psychological perspective, we primarily think of a compulsive behavior as being part of OCD [if it meets] a very precise definition: it’s a repetitive behavior or thought that is performed in response to an obsessional fear and with the intent of reducing obsessional anxiety or distress.”

This defense mechanism can manifest itself in a variety of forms. Some of the most common compulsions are repeated washing and cleaning—as in Mark’s case—as well as checking and triple checking to make sure that the stove is off, a light is not

left on, or you haven’t missed an email. No matter the particular expression of OCD, it’s all a constant effort to find reassurance or peace. “Some other compulsions include repeating things mentally to oneself,” Abramowitz adds, “ordering and arranging things and repeating everyday activities, such as going through doorways over and over or saying prayers or doing religious rituals repeatedly.”

Religion, in fact, was once intimately linked to obsessive and compulsive behavior. In the 17th century, there were regular reports of “religious melancholy” and persistent doubting of the Scriptures, which are now thought to have been OCD. John Moore, bishop of Norwich, England, delivered a 1691 sermon in which he referred to people obsessed by “naughty, and sometimes Blasphemous Thoughts . . . while they are exercised in the Worship of God [despite] all their endeavours to stifle and suppress them . . . the more they struggle with then [sic], the more they increase.”

By the 19th century and the early stages of modern psychiatry, ideas had changed about obsessions and compulsions. In his 1838 textbook, the French

psychiatrist Jean-Étienne Esquirol (1772–1840) characterized what we now consider OCD as a kind of monomania—a function of impaired will that forced the mind to focus on a single, torturous idea. Later, two other Frenchmen offered differing views: Bénédict Morel (1809–73) wrote of a *délir émotif* (disease of the emotions, rooted in the autonomic nervous system); Valentin Magnan (1835–1916) considered the affliction a *folie des héréditaires dégénérés* (psychosis of degeneration), which he attributed to heredity.

In Germany, meanwhile, many psychiatrists saw OCD as the consequence of a “disordered intellect”—*Grubelnsucht*, taken from the German for “racking one’s brains”—a ruminative illness. The Berlin-born psychiatrist Carl Westphal (1833–90) coined the term *Zwangsvorstellung*, which the British translated as “obsession” and Americans as “compulsion.” Eventually researchers and practitioners settled on the composite term “obsessive-compulsive disorder.” In the 20th century, Sigmund Freud saw OCD as a maladaptive response to internal conflicts with dark impulses, the unconscious sexual or aggressive id. Compulsive acts and rituals were a defense, perhaps a kind of magical thinking to neutralize the “bad” thoughts and preoccupations.

Contemporary psychiatry, benefiting from advances in pharmacology, neurophysiology and more, is reshaping the diagnosis and treatment of OCD, which affects roughly 1 in 40 Americans. Imaging studies of people with OCD, for example, show elevated activity in the amygdala, the portion of the brain that processes several primal emotions, including fear, anxiety and the threat response. Columbia University Medical Center psychiatry professor Helen Blair Simpson, who is the director of the Anxiety Disorders Clinic at the New York State Psychiatric Institute, believes that there are a lot of factors at play in triggering the condition, including “genetics, abnormal brain development, neurological insults and even environmental contributions.”

Still, a definitive answer about the roots of OCD remains elusive. Though research does suggest that OCD runs in families, “don’t make the mistake of just assuming this means that it is a genetic problem,” Abramowitz cautions. “Many things run in families that are not genetic—such as language, religion and other sorts of behaviors and values. Most likely OCD has a small biological component and a large learning component for its causes.”

Obsessive-compulsive disorder, which affects roughly 1 in 40 Americans, is inextricably linked to anxiety, typically triggered by irrational, or at least excessive, fears.



What’s clear is that OCD is inextricably linked to anxiety, typically triggered by irrational, or at least excessive, fears. The performance of compulsive rituals is a control device, an effort to prevent whatever catastrophic threat the person perceives to be looming. It’s a painful condition driven by a simple equation. “Obsessions provoke anxiety, and compulsions are performed to reduce the anxiety,” Abramowitz says. “The result ends up as a vicious cycle, because, after all, washing one’s hands over and over again is probably not a successful strategy against misfortune.”

In some ways, compulsions sound very much like addictions, and indeed, there are behavioral similarities between the two, especially the consuming need to repeat a behavior that inevitably leads to misery. “However, there are also very important differences: addictions involve tolerance and withdrawal,” Abramowitz explains. That is, decreased sensitivity to something like drugs or alcohol leads to consuming more and more to get the desired fix or rush. The other side of that behavior, withdrawal, is the unpleasant, even agonizing, physiological response to discontinuing the behavior or the substance.

“You have this with many drug addictions, but this is not the case with OCD compulsions,” says Abramowitz. “They may provoke emotional distress when the person tries to stop, but this is not the same thing as physical withdrawal that is necessary for an addiction.”

Not all compulsions are OCD-related, of course, but all can commandeer daily life, distracting from work and other tasks while doing all manner of damage. People battling compulsive sexual behavior, or hypersexuality, are excessively and irresistibly preoccupied not only with in-person erotic encounters but also fantasies, urges and other behaviors, including cybersex, pornography and masturbation. (One high-

profile case of compulsive sexuality is that of former congressman Anthony Weiner, whose uncontrollable “sexting” destroyed his promising political career and landed him in prison.) The causes aren’t clear, but most investigators agree that hypersexuality is neurologically based—perhaps a chemical imbalance involving serotonin, dopamine or norepinephrine. Diseases such as epilepsy and dementia can also affect areas of the brain that regulate sexuality. Subtler, more personal variables determine how any one person’s sexual compulsiveness is expressed.

Compulsive gambling, meanwhile, is self-evidently catastrophic and a ticket to financial ruin—the house, after all, always wins. Again, the precise origins of the condition are unknown, but the urge to risk one’s money for a potential windfall may derive “from a combination of biological, genetic and environmental factors,” according to the Mayo Clinic website. The withdrawal symptoms associated with gambling are similar to those with alcohol, which is one reason the most recent edition of the *Diagnostic and Statistical Manual of Mental Disorders* has recategorized gambling as an addiction. Hoarding disorder—the excessive acquisition of objects and the refusal to throw them out—is a compulsion that actually inspired a reality-TV series featuring people whose homes were piled with mounds of books, papers, clothes, undiscarded trash and other items.

THEN, TOO, THERE is the mystery of trichotillomania, the persistent urge to pull hair out of the scalp, eyebrows, lashes or other body parts. The syndrome usually develops during the tween years, and the hair plucking is sometimes performed as part of elaborate rituals—say, meticulously selecting just the right strand to yank out, playing with the hair, rubbing it across the mouth or even eating it (trichophagia). In some people, the hairpulling is conscious and focused; others may do it automatically and unconsciously.

Trichotillomania is frequently a response to negative feelings—anxiety, stress, boredom or loneliness, for example. Whatever fleeting relief the hairpulling provides inevitably comes at a price. Some sufferers wind up wearing wigs to hide bald patches or experience a fear of humiliation that impedes their relationships, intimacy or professional advancement. Low self-esteem can lead to deepening depression and substance abuse. In extreme cases, trichotillo-

mania can cause gastrointestinal damage—in 2016, surgeons in Britain removed a 14-pound hair ball, or trichobezoar, from the stomach of Sophie Cox, 23. She had been eating her own hair for six years and had suffered drastic weight loss, vomiting and excruciating intestinal pain.

When people realize that they’re in the throes of compulsive behavior, therapists say, there are two main lines of treatment. Selective serotonin reuptake inhibitors (SSRIs), such as the antidepressants Zoloft, Lexapro and Paxil, have shown some success, but it’s been limited thus far. “About half of people who take medications do not respond,” Abramowitz says. “Although these medications are thought to work by altering levels of serotonin, it is not clear that this is what leads to any reductions in OCD symptoms.”

The prevailing form of treatment for curtailing OCD, as well as compulsive habits, is cognitive-behavioral therapy. This approach requires that patients acknowledge the behaviors they want to stop and are willing to meet the accompanying fears and anxieties head-on. “In the case of many habitual compulsions, we teach people to keep track of the triggers that provoke the behaviors and then help them apply alternative strategies for managing them,” Abramowitz explains. “When it comes to OCD, we help the person gradually and purposely confront their triggers—which is known as exposure therapy—and allow themselves to feel the obsessional anxiety without doing the compulsive ritual. That’s known in the field as response prevention. This treatment works for about 60% to 70% of people with OCD. It basically teaches them that their obsessional triggers, thoughts and feelings of anxiety are not dangerous and that compulsive rituals are not necessary to keep them safe.” Medication and cognitive-behavioral therapy are often used in tandem.

When Mark, the tormented young chemist, first entered cognitive-behavioral therapy, he registered 25 out of 40 on the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), a measure devised three decades ago to gauge the severity of OCD symptoms. That marked him as a severe case. The early sessions focused on getting Mark—with his wife’s help—to confront the items he believed were contaminated, such as anything that had touched the floor or trash cans and lab instruments. He worked toward resisting his decontamination rituals, with Heather advised to serve as a kind of coach to motivate and support Mark’s efforts to change.



The withdrawal symptoms associated with gambling are similar to those of alcoholism, which is one of the reasons gambling has recently been reclassified as an addiction.

But it was a painstaking process. Each object had to be confronted and conquered separately; for example, Mark might successfully handle a test tube, but when it came to a microscope, he would seize up with anxiety again and have to repeat the exposure and the response prevention. Heather had an equally hard time, but for different reasons. While she would successfully refrain from accommodating Mark's rituals during their formal exposure practices, the rest of the time she couldn't bear to see him feel anxious and yielded to her compassionate instinct to offer immediate relief. The couple's therapist managed to convince her that her lovingly well-intentioned efforts to alleviate her husband's anguish could actually lead to marital conflict over time by exacerbating Mark's OCD symptoms.

Next, the couple made some practical changes. Mark had stopped cooking meals at home or pumping gas at a self-serve filling station because of his contamination fear. Now the pair made sure that he helped out in the kitchen and took on some of the gas pumping. When Mark grew anxious because he thought his laptop cord, coat sleeve or some other

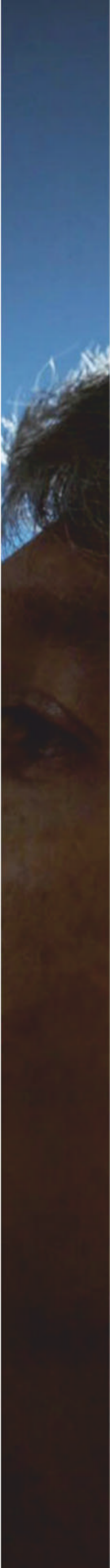
object might have touched the floor, Heather would give him a little pep talk, assuring him not that they hadn't, but that he could tolerate any temporary distress either way. She also stopped taking extra showers and performing unnecessary housecleaning.

Initially the new dynamic strained the couple's relationship; they grew more distant as Mark sometimes reacted with anger to Heather's tougher love. With their therapist's help, however, they became more adept at talking through their thoughts and feelings constructively. They were also urged to socialize more, even daring to meet friends at venues—such as bars and campsites—that Mark's OCD had previously placed off limits. He and Heather found that their new openness brought them closer, helping build and maintain intimacy.

After several months, Mark's Y-BOCS score dipped 8 points to 17, in the low-to-moderate range. Though more work and vigilance lay ahead of them, he and Heather had made solid progress—evidence, Abramowitz says, “that the best treatment for compulsive behavior and OCD is to stop performing your rituals and lean into your distress.” □

THE POWER OF HABITS **ADDICTION**





IS ADDICTION A HABIT OR A DISEASE?

**HOW WE ANSWER THIS QUESTION
HAS MORE REPERCUSSIONS THAN
WE MIGHT IMAGINE**

BY DAVID BJERKLIE

THERE ARE FEW NIGHTMARES AS TERRIFYING AS the cycle of human addiction, few plights as mournful as when despair, guilt and shame submerge an addict who can't put down the bottle, needle or pipe, even when everything, including life itself, is about to be lost.

"A mother's love for her children is seen as the epitome of the survival instinct," says Martin Seppala, the chief medical officer at the Hazelden Betty Ford Foundation, "but I remember a woman I saw in my practice; she was a meth addict, a single mom with two kids under age 5, who was trying to stay sober. On her way to the grocery store, she happened to see her dealer. She disappeared for four days. Kids left in the apartment."

We shudder at the horror of addiction stories. How is it possible to fully fathom this type of behavior? "She loved her kids as much as I love mine," says Seppala. "And yet in that moment, the importance of using outweighed her love." For Seppala, who counseled the woman two years later as she was trying to regain custody of her kids, it is brutal testament "to the terrible power the disease of addiction has over people."

That term—"disease"—is not used lightly. According to the National Institute on Drug Abuse, "Addiction is a chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences." The American Society of Addiction Medicine uses similar language: "Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry." And as far back as 1967, the American Medical Association classified alcoholism as an illness. Most of us, in fact, assume addiction is a disease because something that dire and deadly, that inexplicable and insidious, could hardly be anything else.

As Seppala says, “The disease definition of addiction helps us comprehend behavior that is totally dumbfounding, to the addict as well as everyone else.”

And besides, if addiction isn’t a disease, what else could it be? A ruinously bad habit? We don’t usually consider bad habits something to lose our toddlers over. But whether addiction is a disease or a habit doesn’t hinge on dire consequences. Some addicts skate by for a long time—never having the fatal car crash, never losing the house or the spouse.

Nor does the distinction follow from the fact that while it can be damn hard to break a bad habit, it can prove tragically impossible to break an addiction. Some people do quit cigarettes, cocaine and heroin. Some people, on the other hand, go their whole lives without ever getting over their nail-biting habit. The dividing lines are fraught—so fraught, says neuroscientist Marc Lewis, author of *The Biology of Desire* and *Memoirs of an Addicted Brain*, that we may need to reevaluate what addiction is and what it isn’t.

THE ARGUMENT OVER the nature of addiction has churned for millennia. Is the inability to “just say no” a moral or medical problem, a defect of body or will? Though there persists the suspicion, even the accusation, that addicts are at heart weak and greedy, things took a more sympathetic turn with the founding of Alcoholics Anonymous in the 1930s.

“The premise of AA was that alcoholics were suffering human beings who had the right and the obligation to try to relieve their suffering,” writes Lewis. “It also spearheaded society’s recognition that addicts need help, not rejection, and that they can get better.” Although the focus of AA was on how the “spiritual malady” of addiction led to mental obsession and physical compulsion, the program would


come to play a large role in reinforcing the perspective that vulnerability to alcoholism was innate.

Today the disease model of addiction is, depending on your view, either scientific consensus or misguided—if well-intentioned—convention. The scientific case is indeed a very strong one. In a 2018 blog post for the National Institute on Drug Abuse, neuroscientist Nora Volkow, who is the director of NIDA (part of the National Institutes of Health), recounted her involvement as a young scientist in the research of the 1980s that would provide “the first evidence in humans that there were changes in the brains of addicted individuals that could explain the compulsive nature of their drug taking. The changes were so stark that in some cases it was even possible to identify which people suffered from addiction just from looking at their brain images.” This concept of addiction as a brain disease was further reinforced in the 1990s, declared by President George H.W. Bush as the Decade of the Brain.

The fact that substance abuse results in changes in brain structure and function is indisputable, agrees Lewis. At first glance, that might seem to clinch it. “After all, the pancreas changes with diabetes, and the heart changes with heart disease. The liver changes with hepatitis, and the lungs change with lung cancer. If a condition changes the shape or function of our organs, and if that change is difficult or impossible to reverse, we label that condition a disease.”

But this misses the point, scientifically as well as therapeutically, counters Lewis. The changes that can be tracked in the brain during addiction “are more normal than abnormal,” he explains, driven by “learning and development—not disease.” This is the crux, according to Lewis, a key piece of evidence that “addiction is a habit.” Certainly it’s a habit that “gets entrenched through a decrease in self-control” and one that is “definitely bad news for the addict and all those within range. But the severe consequences of addiction don’t make it a disease any more than the consequences of violence make violence a disease or the consequences of racism make racism a disease.”

Lewis and Volkow are very familiar with each other’s positions. In fact, they participated in a five-day dialogue with the Dalai Lama in Dharamshala, India, at a conference on addiction and desire sponsored by the Mind and Life Institute. Volkow acknowledges that the medical model of addiction does have its critics.



Stigma matters. It’s the reason most addicts don’t seek treatment. And it matters to families too: calling addiction a disease makes the “disgraceful behavior” of a relative comprehensible and forgivable.



Prescription pills, including painkillers, tranquilizers, stimulants and sedatives, are used and abused more than any other drug except marijuana and alcohol.

“Some claim that viewing addiction this way minimizes its important social and environmental causes,” she says, “as though saying addiction is a disorder of brain circuits means that social stresses like loneliness, poverty, violence and other psychological and environmental factors do not play an important role.” But those variables, Volkow stresses, are indeed considered. “In fact, the dominant theoretical framework in addiction science today is the biopsychosocial framework, which recognizes the complex interactions between biology, behavior and environment.”

Volkow notes that critics of the brain-disease model also argue that it overlooks “the crucial role played by learning. They suggest that addiction is not fundamentally different from other experiences that redirect basic motivational systems and consequently ‘change the brain.’” She even concedes that “some critics also point out, correctly, that a significant percentage of people who develop addictions eventually recover without medical treatment.”

Lewis, in turn, appreciates that Volkow and others “see the disease model as an improvement over the centuries-old norm of denigrating addicts for

their lack of willpower and moral decrepitude. And that’s certainly a step in the right direction.” He notes that “the disease model has also served to stimulate volumes of new research, promote the development of useful medications and consolidate our understanding that addiction involves biological factors.”

Lewis can also appreciate the social value that Volkow sees in calling addiction a disease. “[It] not only mitigates massive volumes of stigma and guilt but also aims to provide accessible avenues for addicts to get help,” he says. And stigma matters; it remains the reason most addicts don’t seek treatment. The disease concept of addiction is ubiquitous in 12-step recovery meetings (no matter that the “treatment” that 12-step recovery offers rests on very powerful but unmedical notions of fellowship, declarations of powerlessness, surrender to a higher power, taking personal inventories and making amends). Stigma matters to the families of addicts too; as Lewis notes, families have reason to see addiction as a disease, “because it makes the ‘disgraceful’ behavior of their loved ones comprehensible and even forgivable.”



Use of the highly addictive methamphetamine has increased in recent years, costing thousands of lives and tearing apart families.

But, as Lewis points out, there can be a downside for many addicts in seeing themselves as victims of a disease. A 1996 study by psychologist William Miller and colleagues, published in the journal *Addiction*, found that among individuals entering a treatment program, the stronger the belief in the disease model of addiction, the greater the likelihood of relapse within six months. Yet many experts believe from experience that if the condition isn't treated as a disease, it doesn't get treated at all. Even if that's true, though, "that doesn't make it good science," Lewis says. "And bad science makes for models of treatment that are distorted and ineffective."

It can often seem that the disease-vs.-habit debate is binary, but as Hazelden's Seppala explains, our reward and response systems constitute a spectrum. Consider those brain changes that Volkow helped discover in the 1980s. Yale researcher Sally Satel and Emory University colleague Scott Lilienfeld don't find them as convincing as they might seem—a point they made persuasively in a 2013 article titled "Addiction and

the Brain-Disease Fallacy," published in *Frontiers in Psychiatry*.

"Every experience changes the brain—from learning a new language to navigating a new city," write Satel and Lilienfeld. "It is certainly true that not all brain changes are equal; learning French is not the same as acquiring a crack habit. In addiction, intense activation of certain systems in the brain makes it difficult for users to quit."

Addiction, in other words, is just the nastier end of the nonbinary spectrum. The thing about spectrums, however, is that they sometimes have a point after which a difference in degree becomes a different in kind, such as the way water gets colder and colder until at a certain point it jumps to ice. In the same way, while dopamine levels in the brain are always dynamic, Seppala says, it is only in addiction that we see dopamine released at levels that would never occur naturally. Addiction puts the system into overdrive, and the course of addiction includes the body's attempt to regulate that and maintain homeostasis.

That, in effect, is what makes addiction seem to

“hijack” the brain, which is a term that is used a lot in the field. Volkow uses it, though she recognizes that “metaphors illuminate complexities at the cost of concealing subtleties.” Even Satel and Lilienfeld note, “As shorthand for the usurpation of brain circuitry during the addiction process, it is a reasonable metaphor. In the hands of brain-disease purists, though, ‘hijacking’ has come to denote an all-or-nothing process, likened to a ‘switch in the brain’ that, once flipped, affords no retreat for the addict.”

But can it really be that once that switch is flipped, excessive drug or alcohol use becomes a disease of the brain? And how does the fact that people choose to quit debilitating drug and alcohol use fit into the NIDA formulation of addiction as chronic and relapsing—especially since, in statistical terms, quitting is the rule, not the exception?

The debate will continue in books and journal articles, but it is also being actively field-tested. It has been a decade since a landmark piece of legislation called the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008 was passed. That federal law “prevents group health plans and health insurance issuers that provide mental health or substance-use disorder (MH/SUD) benefits from imposing less favorable benefit limitations on those benefits than on medical/surgical benefits.” Mental-health advocates fought hard for that, and it was undeniably an enormous victory.

But the law may have also set into stone an imperfect definition of addiction. “Connecting the biology of addiction to the experience of addiction is no simple matter,” writes Lewis. Comparing the numbers crunched in imaging studies with the examination of personal experiences are radically different propositions. “The task is to overthrow myths and biases and replace them with a framework for looking at addiction more realistically, without ignoring its biology or its psychology.”

The neuroimaging of addicts’ brains and the understanding of the emotional and psychological realities of addiction are not mutually exclusive, of course, but they are most definitely not the same. “One of the shortcomings of the neurocentric view of addiction,” according to Satel and Lilienfeld, is that this “perspective ignores the fact that many people are drawn to drugs because the substances temporarily quell their pain: persistent self-loathing, anxiety, alienation, deep-seated intolerance of stress or boredom, and pervasive loneliness.

The brain-disease model is of little use here because it does not accommodate the emotional logic that triggers and sustains addiction.” When you’re in that much pain, the drugs make a perverse kind of sense, which sure doesn’t sound like a disease.

If there will never be any shortage of diverse descriptions of addictions and their destructive power, can there be a definition of addiction that will satisfy most, if not all? Maybe. We know that addiction is about the intensity of need and desire. We know it can become deeply, profoundly entrenched, sometimes slowly, sometimes with astonishing speed. We also know, as Lewis notes, that “the neurological mechanics of this process involve multiple brain regions, interlaced to form a web that holds the addiction in place.”

In the end, though, according to Satel and Lilienfeld, the most useful definition of addiction may be one that simply states the observable facts about the behavior that we recognize as addiction and leaves it there. The beauty—and utility—of avoiding any theoretical model is that it “inspires broad-minded thinking about research, treatment and policy,” they say. Research will continue to yield “valuable information about the neural mechanisms associated with desire, compulsion and self-control—discoveries that may one day be better harnessed for clinical use. But the hard daily work of recovery, no matter the mode or model, will remain a human process that is most effectively pursued in the idiom of purposeful action, meaning, choice and consequence.”

However the debate over the addiction model proceeds, there is good reason to hope it doesn’t go away. Using the word “disease” to refer to addiction surely won’t. The word packs a punch, and in our neurology-obsessed age, brain disease has a one-two power that might be impossible to deny.

What’s more, the very fact that there’s an ongoing debate may help us expand, rather than narrow, our views. We argue *at* each other when the topic is politics, but scientists arguing *with* one another can often produce new insights. In some ways, too, there’s a particularly American quality to thinking about recovery. We believe in second chances; we value personal transformation. We know how hard it is to change, but we resist the idea that our behavior can be extrapolated from that of lab rats. We are a species that has diseases, and we are a species that has resolve and will and commitment. Somewhere in there is a curative—and kind—model. □

WHOLESALE CHANGES?

WHY GIVING UP ALL YOUR BAD HABITS AT ONCE CAN BE A GOOD IDEA (MAYBE)

BY ALEXANDRA SIFFERLIN

TO MAKE HEALTHY CHANGES, PEOPLE HAVE LONG been advised to start slowly and not take on too much at once, since that may prove emotionally exhausting. But a 2016 study suggests that embracing a wide variety of healthier behaviors at once, including changes to diet and exercise, may work better.

The researchers in the study found that people who had changed several aspects of their lives in an attempt to be healthier saw bigger improvements in mood and stress levels compared with people in other trials who had changed just one thing. The study was very small, involving only about 30 college students, but it was well structured.

Half of the subjects went about their days as normal, while the other half changed their behaviors significantly, by doing exercises in the morning, including stretching and resistance training, and attending an hour-long session in meditation and stress reduction. A couple of times a week, they also increased

the intensity of their workouts and learned about sleep and nutrition, and they met with instructors to discuss personal challenges and were encouraged to perform random acts of kindness.

Before the interventions, men and women in the study took physical and cognitive tests, including graduate comprehension exams, and underwent brain scans. A few weeks later, they repeated the tests and brain scans, and the researchers found that the control group performed the same but the students with intensive behavior changes were more focused and reported improved happiness and memory.

“Our findings suggest that making multiple lifestyle changes at once can lead to both larger and more numerous benefits than typically observed when focusing on just one thing at a time,” says study author Michael Mrazek of the University of California, Santa Barbara. “We found parallel and enduring improvements in more than a dozen different





One study showed that students fared well when they changed several habits at once.

outcomes that truly matter in our lives—strength, endurance, focus, reading comprehension, working memory, self-esteem, happiness and more.”

Mrazek says it may be that each lifestyle change supports all the others—that reinforcing the changes with other behavior tweaks makes the overall goal more sustainable. “Exercising regularly makes it easier to sleep. Sleeping well makes it easier to meditate. Being mindful makes it easier to choose healthy foods,” he says. “If you try to force a change like drinking less coffee without also addressing other relevant aspects of your life like sleep, you’ll likely find that it’s hard to make the new coffee habit stick.”

But is it possible to sustain so many lifestyle changes? And is it really better to transform all behaviors at one time—over smaller changes one after the other? Unfortunately those questions still remain. The study was too small to make any definitive conclusions on how best to achieve a healthier life,

and some researchers are skeptical of the findings.

“I think that this interpretation is way overblown,” says Russell A. Poldrack, the Albert Ray Lang professor of psychology at Stanford University. “I don’t see how the study tells us anything about different ways to give up bad habits, since it did not compare different interventions, just a single multifaceted intervention versus a very weak control. All it says is that changing lots of things at once can have an effect, but we don’t really know where that effect is coming from. In addition, the sample size is far too small for us to make any strong conclusions.” Poldrack was not involved in the study.

More research will be needed to better understand the most successful ways to improve health and well-being, but Mrazek is convinced he has discovered an important part. “Our findings suggest truly remarkable changes are possible if you’re willing to put in the work,” he says. □

THE BLUEPRINT FOR CHANGING YOUR HABITS

THE RIGHT AND WRONG WAYS TO CHANGE YOUR HABITS

BY MARKHAM HEID

WHAT IF GOING TO THE GYM, EATING HEALTHY foods or taking time out each day to meditate were as effortless and reflexive as brushing your teeth or checking your phone? They're not, of course. Junk food beckons, gym commitments slip, and as for meditating, who has the time? But you can indeed learn to practice good habits automatically, provided that you turn them into exactly that: habits.

By definition, habits are repeated, nearly automatic actions that are triggered by contextual cues. When you get in a car, you put on a seat belt—or at least you do once you make it a habit. Similarly, when you wake up in the morning, you hop in the shower. Once formed, habits require little willpower and even less forethought. If you can turn healthy behaviors into habits, maintaining them is a snap.

But what are the most effective ways to form new habits? And what techniques are unlikely to be helpful? While friends, family members and self-improvement coaches are full of advice about how to foster new habits and break bad ones, those who study human habit formation have found that there are right and wrong ways to approach the practice. Here's what works—and what doesn't.

THE RIGHT METHODS

WHEN YOU DISTILL IT TO ITS BASICS, FORMING A new habit is a simple task. "Get a person to do something consistently and in the same context, and it will become a habit," says Benjamin Gardner, a senior lecturer in psychology at King's College London who has authored dozens of papers on habits and their formation. Of course, "simple" isn't the same as "easy." But understanding how new habits take hold can greatly improve your odds of success.

Gardner says habit formation happens in three phases. The first, which he and other researchers term the "initiation" phase, involves deciding on a new behavior and also—and this is critical—choosing the context in which this behavior will occur. So let's say you want to go to the gym twice a week. Rather than framing your goal in those vague terms, Gardner says you would want to schedule two specific times during the week—every week—when you'll make that gym visit happen. For example, decide ahead of time to go on Tuesday and Thursday evenings immediately after work. Getting specific, planning ahead and setting reminders or alerts for yourself are all helpful, he says.

Another crucial component: enjoyment. "The trick to habit formation is repetition, repetition, repetition, and we are most likely to repeat actions that we enjoy," says Wendy Wood, a professor of psychology at the University of Southern California who has studied habit formation since the 1990s. "So find something you like about a new action that makes it enjoyable," Wood advises. For example, if you dislike exercise, find a great podcast or playlist that will give you something to look forward to during your workouts. "Even feeling pride can be an enjoyable reward," she adds.

To further improve your odds of success, Gardner also advocates a "small changes" approach. If you want to eat healthier, a complete overhaul of your diet is going to be tough to implement and maintain. Instead, start with a single tweak—like taking your morning coffee without sugar or substituting an apple for your usual afternoon snack of chips or candy. Once that new habit is firmly established—meaning it's no longer something you have to think about or struggle with—you can make additional adjustments one at a time. Yes, this is a much slower process than attempting immediate and wholesale behavior change. But your odds of success are much higher.



Broccoli may not be its own reward, but rewarding yourself for healthy eating is a smart strategy.

Persistence is, of course, a necessary ingredient. New habits take time to establish their roots. How much time? A 2009 study from University College London has an answer that is equal parts oddly precise and enormously broad: anywhere from 18 to 254 days. But research generally suggests that the average new habit requires about 66 days to take hold. Focusing on this limited period—not on “forever”—can help your goals feel more attainable. Even better news: Gardner says that it takes far less time—about two weeks—for a new behavior to start to feel like a part of your routine. Get through those first few days or weeks, and the progress will be smoother.

Both positive and negative reinforcement can help strengthen a new behavior. But people tend to misunderstand these concepts (or confuse the negative variety with punishment), says Mark Galizio, a professor of psychology at the University of North Carolina at Wilmington. Positive reinforcement involves the delivery of some sort of benefit in order to encourage a new behavior. Negative reinforcement means removing something in response to a behavior. So if your goal is to eat a healthy lunch every day, allowing yourself to visit your favorite website only on days you stick to your meal plan may be your positive reinforcement. If you give in to something fatty and gooey, sorry, no website. It’s negative, yes, but not punitively so.

When it comes to reinforcement or punishment, Galizio says immediate consequences tend to be much more effective than delayed ones. Returning to the lunchtime-salad scenario, you’d want to give yourself some immediate reward (like visiting that website) while you eat, as opposed to rewarding yourself later in the day or in the evening. The brain makes much more powerful connections when the effect really feels as if it flows from the cause. In that sense, training ourselves is little different from

training our pets. Puppies don’t get housebroken if you delay the “Good dog!” until an hour or two after they remember to use the paper.

Finally, changing your environment is an excellent way to establish (or discard) habits. One 2005 study from Duke University found that students who transferred from one university to another naturally switched their TV, exercise and news-reading habits. Remove all the familiar environmental cues, the study suggests, and it’s much simpler to form new routines. Like shaking up an Etch A Sketch, this contextual slate wiping can provide you the opportunity to draw up new behaviors.


So if you have some sort of home or work transition on your horizon, those moves should provide a great opportunity to amend your habits. Even if you don’t have any big changes planned, it’s a good idea to avoid those places or contexts that you associate with unwanted behaviors. If visiting a certain restaurant makes you crave an unhealthy dish, find a new place to eat. Or if a concert venue makes you want to smoke, stay away. Especially in the beginning, when changing habits is the most difficult, avoiding problem contexts is a helpful hack.

THE WRONG METHODS

IN ALMOST EVERY CONTEXT, SHAMING AND criticism—whether directed at yourself or coming from others—are not helpful ways to encourage new behaviors or habits. That’s good news because those approaches feel lousy too, so it’s nice to know you don’t need them.

A recent study from McGill University in Canada confirmed that self-criticism has a negative effect on goal achievement. A related 2017 study in *PLOS One* found that feelings of shame or self-disparagement among obese women were associated with increased hunger and weight gain. Willpower and habit regulation are, at least in part, dependent on feelings of confidence and positivity, these studies concluded. Unhealthy foods, bad for us or not, are sources of at least short-term pleasure and reward. And when someone feels shamed or criticized, it’s natural to reach for these habitual comforts. The same is true of surrounding yourself with people who will criticize or shame you for missing the mark.

Even people who know not to outsource the shaming to someone else may try a somewhat similar approach: announcing their good intentions to friends, colleagues and family members—whether in



In almost every context, shaming and criticism—whether directed at yourself or coming from others—are not helpful ways to encourage new behaviors or habits.



Don't simply tell yourself that you'll start running; tell yourself that you'll run, say, every Monday, Wednesday and Friday for one hour after work. Specificity matters.

person or on social media. In a 2009 New York University study, researchers found that this approach actually makes you less likely to follow through and achieve your goals. It might be true that if you tell everyone you know that, say, you're going to quit smoking, you'll think twice before lighting up in others' presence. But you have plenty of time when you're off by yourself; having already spouted off about the admirable self-improvements you plan to make may have given you a premature sense of accomplishment, which in turn drains your motivation to change, the research shows. First you begin smoking on the sly, and then in public and never mind the disappointed looks you might get from your friends.

Another reason not to trumpet your goals or intentions: when people are working to establish a new habit, negative feedback is especially poisonous, finds research from the University of Chicago. New habits are fragile, and maintaining them is arduous. If you spread word about your plan to cook your own meals five nights a week, a few discouraging comments from a dubious parent could be enough to ruin your willpower, the study suggests.

Finally, don't try to banish thoughts associated with your unwanted habits. In a famous study published in 1987, social psychologist Daniel Wegner (then of Trinity University, later at Harvard) found evidence of something we all know to be true: the harder you try not to think about something, the more likely you are to think about it. In his experiment, Wegner asked students not to think about a white bear. Of course, the participants had white bears on their minds for the duration of the study. Follow-up experiments have shown that trying not to think about bad habits or anxiety-producing topics does something similar.

So rather than trying to stuff down any thought you may have about your unwanted habit, try instead to focus on the benefits you experience when you avoid it. "Again, changing behavior is about focusing on positives, not negatives," Gardner says.

Of course, there are many other ways to foster new habits or discard unwanted ones. Books (long ones) have been written about the science of habit creation and dissolution. But start with the advice here and you'll be on the right path—and more likely to avoid wrong turns. □





LIFE- CHANGING HABITS

CHAPTER

3

DISCOVER TIPS
FOR GETTING
YOUR MIND
AND MONEY
IN SHAPE,
WITH ADVICE
FROM SOME
SUPERSTARS
OF MEDIA,
SPORTS AND
BUSINESS.

HABITS AROUND THE WORLD

**DIFFERENT COUNTRIES HAVE
DIFFERENT CODES OF CONDUCT.
THE RULES HELP SET NORMS THAT
KEEP CULTURES ORDERLY**

BY RICHARD JEROME

YOU'RE MEETING A FRIEND DOWNTOWN FOR A 2 P.M. lunch and don't want to be late, so you grab a cab and hop in back. Upon reaching the restaurant, you hand the driver a \$10 bill, tell him to keep the change—and make it to the hostess station by 1:59. When your friend shows up, you give her a hug, get seated and order spaghetti. While you're waiting, she tells a funny story—you throw back your head and laugh out loud.

The busboy brings garlic bread; you break off a piece with your left hand and dip it in olive oil. When lunch arrives, you use a spoon to help roll the pasta onto your fork. The waiter stops by and asks how you like the meal—it's delicious, but your mouth is

full, so you give him a thumbs-up. You split the tab and tip, as always, and then head home. On your way, someone asks you how to get to a nearby address. "Two blocks that way," you say, pointing east. Later in the day, you stop at a Starbucks, order a coffee and leave 35 cents for the barista. All the tables are taken, but you find room to sit cross-legged on a windowsill. At some point, you blow your nose—because, well, it needed blowing.

You could play out the above scenario in any American city, and no one would take any notice. But without realizing it, you'd have violated multiple cultural norms observed in countries around the world. Riding in the back of a cab is considered rude and elitist in Australia, Scotland and the Netherlands; tipping can be an insult in some Asian countries; Brazilians might look askance at someone who arrives on time for an appointment; in China, Thailand and the Middle East, public hugging is offensive; so is laughing with your mouth open in Japan. Eating—or doing much of anything—with your left hand will disgust folks across Africa, India and the





*Bowing is a gesture
of greeting and polite
submission in Japan,
even for sumo wrestlers.*



German Chancellor Angela Merkel shares a cheek kiss; one per cheek is proper in her country. The same goes in France, Italy and Greece, but go for a triple in Belgium.

Middle East, where the south paw is traditionally deployed for bathroom tasks. In Iran, Russia, Sardinia and elsewhere, the thumbs-up gesture is as bad as the middle finger. Don't use a spoon to roll your spaghetti in Italy, and don't split a check in France, where you should offer to foot the entire bill, deferring only if your companion absolutely insists. If you're giving directions, don't point with your finger in Nicaragua or Uganda. Note that Asians, Turks and some Europeans find nose blowing disgusting; go to the restroom and do it in private. And as for sitting cross-legged in Arab countries: don't if it shows the soles of your shoes, which is considered deeply insulting.

Whether we call them habits, norms or customs, such cultural practices are essential components of social architecture—bricks and beams that hold a shared system of understood behaviors together, sometimes even codified into law. By a certain age, you are expected to be fluent in all those cues, on pain of social ostracism if you're not.

"There is a parable about two fish that gets at the gist of it," says Michele Gelfand, a University of Maryland cultural psychologist whose book on so-

cial norms, *Rule Makers, Rule Breakers: How Tight and Loose Cultures Wire Our World*, was published in 2018. "Two fish are swimming one day, and an older fish swims by and says, 'How's the water, boys?' The younger fish swims on and says, 'What the hell is water?' Social norms, or unwritten rules for social behavior, are omnipresent—we're abiding by them from when we wake up until we go to sleep. But they are largely invisible—we rarely recognize how much they drive our behavior."

Indeed, consider what American society would look like without its cultural norms. "If people didn't abide by socially expected rules, their behavior would be unbearably unpredictable," Gelfand says. "Imagine that trains, buses and airplanes don't follow any fixed schedule. In conversations, people interrupt each other frequently, start touching new acquaintances. People don't wear clothes in public and have sex anywhere. At restaurants people demand food that isn't on the menu, chew with their mouths full, belch and eat off of strangers' plates. On city streets, no one pays attention to stoplights, and people drive on both sides of the road."

Of course, much of what looks like good manners to us appears to be just that kind of social vulgarity to other cultures. Consider that business of how people greet one another—specifically, the many variations on a handshake. In the U.S., the classic approach is to use a firm grip and look at a person directly. Same in Mexico and Brazil, but don't be taken aback if a local holds on to your hand for a few extra seconds. While most Americans find a limp handshake indifferent or weak, if you're visiting China or most other Asian countries, the softer grip is preferred, along with a slight bow. And don't make eye contact, lest your benign greeting look more like a statement of intended dominance.

If you're greeting multiple people at the same time in China or the United Arab Emirates, offer your hand to the oldest person first, then work your way down the age spectrum as best as you can determine. Those cultures and others venerate age and maturity more so than in the West. Kenyans greet their elders by grasping the right wrist with the left hand and saying, "*Jambo*" (How are you?).

Things get even more complex when gender is thrown into the mix. Men shouldn't shake hands with women at all in Morocco; Russians frown on it too—better to kiss a woman's hand. And in Thailand, don't shake hands with anyone. Your Thai acquaintance will prefer to place palms together at chest level and bow—the gesture known as a *wai*. Return the *wai*, then say the Thai word for "Hello," which is "*Sawadee-krap*" if you're greeting a man and "*Sawadee-kah*" if it's a woman.

The cheek kiss—practiced most famously by the French—has variations even within *la patrie*. According to a 2014 national poll, a double kiss—one per cheek—is standard in Paris, while three are preferred in Provence; residents of the Loire Valley may sometimes go up to four. Other regions have their own rules: one kiss does it in South America, two in Spain, Italy, Greece, Germany, Hungary and some Middle Eastern countries (as long as it's same-sex); the Belgians go for a triple, as do the Serbs, Swiss, Dutch and Russians.

Speaking of which, if you happen to be in Moscow, St. Petersburg or Omsk one year on September 12, you might find the streets a bit deserted. That's when Russians celebrate the Day of Conception—which is exactly what it sounds like: workers are actually given time off to go home and make babies in order to ensure national survival. Couples who welcome a

If you're greeting multiple people at the same time in China or the U.A.E., offer your hand to the oldest person first, then work your way down the age spectrum as best as you can determine.



child exactly nine months later, on June 12, receive a monetary reward from their regional government.

Even sleep practices differ sharply from country to country. A National Sleep Foundation study in 2013 found that 62% of Mexicans engage in prayer or meditation before turning in for the night. Once in bed, Europeans commonly eschew a top sheet, opting for a comforter or duvet, while in Britain, the NSF reports, one third of sleepers forgo pajamas (or pyjamas) and sleep nude. In the U.S., meanwhile, a 2015 Harris poll found that 71% of pet owners—who comprise more than 60% of the population—sleep with their animals, which a Mayo Clinic survey found to foster warmth, happiness and relaxation. Siestas are thought to have originated to offer respite to farmers laboring outside in hot climates, but even in urbanized Europe it's common for people to beat the afternoon slump with a nap. In Japan that's the case, too, except that there, people will sometimes fall asleep publicly—in restaurants, on park benches or on mass transportation. The 1,000-year-old practice is known as *inemuri*, loosely translated as "sleeping on duty," and is considered a sign of diligence—you've worked so hard that you've earned your nap.

The Japanese not only sleep in public but slurp as well. It's fairly well agreed in the U.S. that we should eat as quietly as possible, with a minimum of chomping, smacking and other sounds. Not so in Japan, at least when consuming noodles; diners there audibly suck up their soba, somen and shirataki, the louder the better. Far from being inappropriate, it's considered a good thing in many parts of Japan—an indication that you're enjoying the meal.

When you're eating out, the question of whether to tip has long had travelers consulting their guidebooks. In fact, leaving something extra on the table

is a habit particularly associated with the Americans for the simple reason that food servers here work for dismally low hourly wages and rely largely on gratuities for their incomes. The standard tip for decent service has long been 15%, though it's been edging up toward 20%.

In many places around the world, however, restaurant and hotel staff are paid a living wage and tipping is a statement of appreciation only for an extremely satisfying meal or excellent service. Sometimes a gratuity is automatically added to the bill (in France, for example, it will say “*service compris*” at the bottom of your tab). So why is tipping frowned on in parts of Asia like Japan, where it is rude for the customer to leave money on the table and dishonorable for the server to accept it? Good service is taken for granted as an assumed fact of life there, and you wouldn't tip your waiter any more than you would an accountant, a plumber or a dentist.

Other habits play out especially in the workplace. In the U.S., people hand out business cards indiscriminately, even carelessly, sometimes scattering a few on a conference table as a meeting is beginning. In Japan, China and elsewhere, business cards are presented with both hands—an offering of your professional identity that is accepted with equal solemnity. In August 2018, a Muslim woman won a discrimination claim in Sweden after applying for a job and being rejected, partly because she declined to shake hands with the men in the room. She opted to place her hand on her heart and smile, which is proper for opposite-gender Muslims.

Whatever the local habits are, some countries will adhere to them more rigidly than others. “Cultures vary in the strength of their social glue,” Gelfand says. She and her colleagues conducted a study of 33 modern societies, published in the journal *Science*,


and broadly grouped them into “tight” and “loose” cultures. “Tight cultures have strong social norms and little tolerance for deviance,” Gelfand explains, “while loose cultures have weak social norms and are highly permissive. The former are rule makers; the latter, rule breakers. In the U.S., a relatively loose culture, a person can't get far down their street without witnessing a slew of casual norm violations, from littering to jaywalking to dog waste. By contrast, in Singapore, where norm violations are rare, pavements are pristine, and jaywalkers are nowhere to be found.”

Or consider Brazil, a culture so loose that clocks on city streets can all read differently, an indication of the country's cavalier approach to punctuality. “In fact,” Gelfand says, “if you want to be very sure someone will arrive on time in Brazil, you say “*com pontualidade britânica*,” which means ‘with British punctuality.’ Meanwhile, in Japan, a tight country, there's a huge emphasis on being precisely on time. Trains almost never arrive late, and on the rare days that delays do occur, some train companies will hand out cards to passengers that they can submit to their bosses to excuse a tardy arrival at work.”

Gelfand and her team suggest that the tighter societies tend to be the ones that experience a high level of threat—be it from natural disasters, famine, scarcity of resources, the constant risk of invasions from hostile neighbors, social unrest from the inside, or a population so dense that it can create utter chaos. “Compare Singapore, with about 20,000 people per square mile, to New Zealand, which has about 50 people per square mile,” Gelfand says. “It makes sense: cultures that have high threat need rules to survive—think about how incredibly coordinated Japan is in response to natural disasters. But cultures that don't have a lot of threat can afford to be more permissive and loose.”

Land mass can play a role too. Japan's population is approximately 127 million—less than 40% of the U.S.'s 325 million. But all those people live relatively packed together in a country with less square mileage than California, requiring lots of rules governing acceptable behavior. America, by contrast, was a vast, frontier country at its founding, and the freedom to do as you please that that fostered has remained with us.

Gelfand's group also reached back centuries to analyze data compiled on 186 preindustrial societies and found a similar spectrum of tight and loose



Some countries adhere more tightly to customs—especially those countries that face threats from natural disasters, war or social unrest. Tight cultures may be more organized but less creative.



Sleep habits differ widely. A majority of Mexicans pray or meditate before bed; a third of Britons sleep in the nude; 71% of American pet owners sleep with their animals.

peoples. For example, the Incas, who flourished in South America during the 15th and 16th centuries, were tight; the Copper Inuit from Canada, who date back more than 3,000 years, were loose.

There are virtues and drawbacks to both the tight and loose models. Loose cultures are more open to new ideas, change and demographic diversity but tend to be less organized. Tight cultures are more orderly and well-coordinated but also less creative and more ethnocentric. “One problem I call the Goldilocks principle,” Gelfand says. “Groups that get too extreme in either direction have a problem. Tight cultures can be oppressive; loose ones have more unpredictability, which can also cause suffering.”

Cultural habits present their greatest challenges to people who move from one country to another—something psychologist Marianna Pogosyan knows firsthand. Pogosyan specializes in the psychology of cross-cultural transitions and writes the Between Cultures blog for *Psychology Today*. Raised in her native Armenia, she later relocated to Japan.

“What struck me most was how people bowed—instead of hugging—avoided eye contact and kept a

deferential distance with their interlocutors instead of enjoying a small interpersonal space and took off their shoes when they entered their homes,” she says. “They also showed an inclination towards politeness, modesty, reverence and harmony that often resulted in indirect, subtle communication. Where were the animated gesticulations, the ceremonious toast makings during every gathering, the directness and the informal-yet-spirited cordiality?”

Pogosyan advises people who are working to adapt to new environments and habits not to try to fake it. “The complexity of belonging entails something bigger than a mere imitation,” she says. “Anyone can learn to eat and talk the way the locals do and still feel inauthentic, misplaced.” Rather, Pogosyan maintains, a more prolonged engagement with another culture “can bring about a profound attunement with its mindset. This newly found intimacy grants us an appreciation of what lies behind the rules. Often, that is also when we catch a glimpse of our common humanity—that despite our diverse habits and norms, we are all part of one family, with the same wishes and fears, needs and hopes.” □

HABITS OF THE RICH AND FAMOUS



OPRAH WINFREY

As one of the biggest names in business, stardom and wellness, Oprah has learned something about how habits and routines can contribute to success. “I have never set an alarm. I don’t believe in them. They are . . . alarming!” the media powerhouse told *Vogue* earlier this year. “I put the number in my mind and I wake up before that, usually between 6:02 and 6:20, because the dogs are trained to go out around that time.” She also practices gratitude: “My first thought in the morning is, ‘Oh, I’m alive. Thank you!’ ” Winfrey has been candid about her decades-long struggles with weight. In an interview with *People*, the icon explained that a shift toward moderation instead of cutting out foods was the secret to her recent success. “I can eat anything I want; I just can’t eat it at the same time,” Winfrey says. “Which is the entire philosophy of life: you can have it all. You just can’t have it all at the same time.”



MICHAEL PHELPS

As an 11-year-old boy, the future all-time record holder for Olympic gold medals didn't seem to have the focus to achieve such a feat. Diagnosed with ADHD and frequently sent to sit on the side of the pool for bad behavior, Phelps was told he would never be able to focus on anything. With support from his coach and his family, he developed the extreme self-discipline that led to his success. From the age of 14 to the Olympics in 2008, he was in the pool 365 days a year. "For the past 10 years, at least, he's never missed a practice," Debbie, Phelps's mother, recalled in 2007. "Even on Christmas, the pool is the first place we go, and he's happy to be there."

SHERYL SANDBERG

The chief operating officer of Facebook and best-selling author has had to be an early riser. With two children to get ready for school and a company to help run, Sandberg was in the office by 7 a.m., a feat that was tough to pull off with less-than-stellar sleeping habits. In her early career years, she dealt with the pressure "by skimping on sleep," she admitted in a 2013 interview with *Fatigue Science*. "A common but often counterproductive approach . . . sleep deprivation just makes people anxious, irritable and confused." Now Sandberg prioritizes sleep and makes sure that she's in bed by 9:30 p.m. "If I could go back and change one thing about how I lived in those early years," Sandberg said, "I would force myself to get more sleep."





THE ROCK

Perhaps not surprisingly, the football player turned wrestling star turned box-office headliner centers his days on the gym. “I always talk about the importance of ‘anchoring’ our day,” Dwayne “the Rock” Johnson wrote on Instagram. “Wherever I land, regardless of what time it is—I’ll get to the hotel, shower, eat, meditate, shot of caffeine and hit the gym.” But with multiple films a year, how can the Rock find the time? Turns out, he skimps on sleep—something that doesn’t work for other people but appears to for him. “I have to wake up before the sun gets up,” Johnson told *Variety* in 2017. “I often sacrifice two hours of sleep just so I can have the quiet two hours that I need before the house wakes up.”

SERENA WILLIAMS

It takes some serious discipline to be Serena Williams. Ranked No. 1 by the Women's Tennis Association on eight separate occasions, Williams had to change her diet to succeed. Despite her sweet tooth, Williams became strict about keeping only vegan food in the house and sticking to a raw diet. "I can't take cheat days too often because my cheat days are usually cheat months! But 'diet' is a bad word," Williams told *Fitness Magazine* in 2014. "I always say it's a lifestyle change, because if you call it that, you won't want those fried hush puppies." Even with her incredibly healthy lifestyle and fitness routine, the tennis champion isn't without her bad habits. "Not returning emails quickly," Williams told *Fast Company* in 2017 when asked about her worst habit. "My inbox is overflowing, and it's the scariest place on Earth."



WARREN BUFFETT

"Don't save what is left after spending; spend what is left after saving." This often-quoted Buffett-ism is a common example of the financial habits that the Berkshire Hathaway CEO encourages everyone to develop. "I think the habits you develop are terribly important. They may be more important than IQ or something," Buffett told Yahoo Finance in 2018. In 1942, at age 11, he bought his first stock for \$114. To do so, he had to develop the habit of saving early. "I started selling those Cokes that I bought, six for a quarter, and sold them for a nickel each around the neighborhood," said Buffett. "And I did all kinds of things to save money, and that's how I got my \$114 together."





LEBRON JAMES

It takes an investment to become the NBA's most valuable player four times. In the case of LeBron James, that investment is reportedly seven figures a year on body care. With a team of coaches, biochemists, chefs and other experts, James spends what he needs to spend to get in shape to win. "You guys know me, when it comes to championship habits, that doesn't mean you're bringing a championship," James told reporters in 2018. "But you practice those habits every day, and I expect that not only from myself, but from my teammates." And while some athletes might cut their sleep time to train, not James. According to ESPN, the all-star athlete clocks 12 hours a sleep per night; the average American gets just 6.8.

BEYONCÉ

With a young family to lead and a performance-level body to maintain, Beyoncé makes good nutrition a habit. A frequent yo-yo and crash dieter before having her daughter, Blue Ivy, Beyoncé developed a new routine. “After having my daughter, I made a conscious effort to regain control of my health and my body,” she wrote in the foreword to *The 22-Day Revolution*. “But I didn’t want to do a crash diet. I was a mom now. I needed to change my ways and set an example for my child.” The star partnered with nutritionist Marco Borges to create a vegan-style diet plan. Beyoncé and her husband, Jay-Z, have both adopted the 22-day diet, which is centered on the idea that it takes 21 days to form a new habit.



BILL GATES

The Microsoft co-founder turned philanthropist had to break a bad habit before he could get serious about business. At a 2005 Q&A at the University of Nebraska–Lincoln’s College of Business Administration, Gates recalled his habit of procrastination. “I liked to show people that I didn’t do any work and that I didn’t go to classes and I didn’t care,” he told students. But with sometimes two days before a test, Gates would race through his studies and catch up. “People thought that was funny,” he said. “That was my positioning: the guy who did nothing until the last minute.” However, Gates knew that was a lousy way to try to get ahead. “When I went into business, that was a really bad habit, and it took me a couple years to get over that,” Gates said. “Nobody praised me because I would do things at the last minute.”



THE HEALTHY, QUIET PRACTICE OF MEDITATION

LEARNING TO POWER DOWN YOUR BODY AND MIND AT LEAST ONCE A DAY CAN MAKE YOU HEALTHIER, HAPPIER AND A WHOLE LOT CALMER

BY ABIGAIL ABRAMS

IF YOU'VE NEVER TRIED TO MEDITATE, THE PROSPECT can seem intimidating. From the outside, people who meditate seem to have a natural ability to sit still, close their eyes and empty their minds. They don't. They have the same busy interior world that you have, with the same swirl of thoughts and distractions. But they've learned to settle all of that down and enter a state in which things are stiller, quieter. You can too—and the benefits for physical health and emotional peace can be enormous.

Meditation and mindfulness have become increasingly popular in recent years, which means there are plenty of new meditators out there. A study last year found that the percentage of U.S. workers who practiced yoga nearly doubled from 2002 to 2012, and meditation rates also increased over that period. Most people know that meditation can reduce stress, ease anxiety and promote happiness. Research has shown that it can also improve focus, memory, cognition and attention, as well as help conditions such as depression, pain, high blood pressure and inflammation—and those are just a few of the areas that scientists have explored.

The reason that one exercise can address such a broad range of issues, according to Sumi Loundon Kim, a meditation expert and the coordinator of

Buddhist life at Yale University, is that rather than tackle problems one at a time, meditation affects how we perceive and react to all of our experiences. She compares this to updating a smartphone. “A lot of people think it’s going to help with this particular app, like the relationship app or the golf-swing app or the relieving-stress-at-work app,” Kim says. “But what it’s actually doing is working at the operating-system level. Whenever we upgrade our operating system, that’s going to impact all the apps in our lives.”

As with updating an operating system too, the business of learning to meditate can be a very straightforward one. The most basic exercise for the novice involves attention training, which just means that you focus your awareness on an anchor, such as your breath or a neutral object like a stone. When your mind inevitably wanders, gently pause, notice the distracting thought and let it go, then bring the attention back to the anchor.

If you’re looking for a little more structure, guided meditations are a great place to begin. Many experts post free audio guides online, and most meditation apps have guides from popular teachers as well. Practicing on your own is important, says Tara Brach, a meditation teacher near Washington, D.C., but in-person instruction through a class or meditation center is often essential for those starting out. “The interpersonal support really helps people get going,” Brach explains.

Experts recommend five key steps for developing a meditation habit. The first and perhaps most important tip is to manage your expectations. Newcomers often get frustrated early on when they can’t completely silence their thoughts, says Joy Rains, author of the book *Meditation Illuminated: Simple Ways to Manage Your Busy Mind*. But the fact is, that’s not even necessary. “Meditation is not a practice of stopping thoughts but a practice of being aware of them,” says Rains. So try not to judge yourself when your mind wanders, Rains says, and instead work on gently bringing your focus back to your anchor.

The next step is to start small with your time commitment. Rather than jumping in for 20 minutes each day, people developing a meditation habit should consider starting with five minutes or even something as short as two or three minutes. “Then gradually increase it when you feel as if it’s manageable for you,” says Rains.

Maintaining a regular time and place for meditation practice is also key for developing the habit. Find a quiet, comfortable spot for your practice, and figure out what time of day works best for you. Most people seem to prefer meditating in the morning, according to the experts, but others do it at the end of the day to clear their heads or during their lunch break at work. Meditating when you're overly sleepy can be a bad idea, since it's too easy to just nod off. The sleep is certainly good for you, but you're missing the benefits of the meditation itself. While you can experiment with frequency, Rains recommends trying to meditate once a day. That way, if you miss a day or two, you're still practicing multiple times a week.

Another way to keep meditation consistent and predictable is to attach it to something that is already an existing part of your routine. Rather than simply setting a specific time to meditate every day, set a time that follows an existing task, like taking out the trash or walking the dog. When the first task is complete, you know it's time to meditate.

Once you've practiced all these steps and established a comfortable and predictable spot in your day to meditate, it's important to remember to enjoy the experience—and to acknowledge that enjoyment, says Laurie J. Cameron, a mindfulness teacher and the author of *The Mindful Day: Practical Ways to Find Focus, Calm and Joy from Morning to Evening*. When you finish a meditation session, she suggests, take at least 15 seconds and check in to see how you're feeling. "That's an immediate reward for practice. When we connect to reward and we're very deliberate about it, then that will sustain new habits."

Of course, people who follow all these steps might still feel that their schedules often make it tough to find time for meditation. When you're feeling particularly busy, Brach suggests going back to very short meditations of about two or three minutes. "Find some small way to just pause and learn to do a mini meditation," she says. Most people can find time to breathe for three minutes in the morning or even in their office if they are stressed at work.

THIS IS THE FASTEST WAY TO CALM DOWN

BY ALICE PARK

When people are anxious before getting surgery, doctors and nurses often tell them to take slow, deep breaths with long exhalations. It may seem like an inadequate way to quell anxiety, but in many cases it actually works.

Now scientists have described why deep breathing, including the breath focus of meditation, can induce such calm and tranquility. In a paper published in *Science*, researchers led by Mark Krasnow, a professor of biochemistry at Stanford University, found that in mice, a group of nerves in the brain that regulates breathing has a direct connection to the brain's arousal center. In other words, breathing can have a direct effect on the overall activity level of the brain.

Krasnow's team has been studying a group of 3,000 neurons in the brain stems of rodents that control all of a mouse's different breathing patterns, from the quick, rapid breathing associated with exertion and excitement to the slower breathing typical of rest to sighing and crying. Krasnow found that about 60 types of nerve cells make up this "breathing pacemaker," and each of these nerve-cell groups are responsible for different breathing patterns.

In the study, the group was trying to isolate the different types of neurons and their various effects on breathing. Using a genetic technique, they silenced specific neurons to see which breathing function was disturbed.

Their first experiment seemed like a failure when the researchers manipulated one set of neurons yet the mice didn't show any changes in their breathing. "We were very disappointed initially," says Krasnow.

They put aside that experiment and moved the manipulated animals to a new cage environment. That's when they noticed something novel. Normally, moving mice makes them nervous and obsessive about exploring their new surroundings. But instead of sniffing and running around, the mice with the changes in their breathing center seemed to "chill," says Krasnow. They continued their at-rest behavior: grooming themselves and hanging out without a need to urgently investigate their new surroundings.

It turns out that Krasnow had disrupted a set of nerves with a direct line to the brain's arousal center; these nerves can either

Busy meditators might also try building a portable routine with their favorite items or reminders of home that can calm them down if they're traveling frequently, says Cameron. If your anchor object is a smooth stone, say, bring it with you. Tracking your meditation habit in a journal can be a good idea too, as it helps you see the progress you're making and encourages you to try to make more.

Other techniques can include finding a buddy with whom you schedule your meditation sessions or switching the style of meditation. Beyond focusing on your breathing, you can practice a sort of self-scan in which your attention rests on different feelings throughout your body. You can also try a walking meditation in which you focus on your feet moving across the ground.

And for those weeks or months—or even years—when people stop meditating, the good news is that they can always begin again. “Remember that it happens even to the best of teachers and longtime practitioners,” says Kim at Yale. “It’s really important to bring a lot of understanding to one’s own

practice.” Just because you stop meditating doesn’t mean the habit is lost forever. She encourages people who stop meditating to ask themselves gently whether they are ready to pick it back up and, when they are, to go back to five minutes a day and start from there.

Another way to get back into the habit of meditation is to connect it to a larger goal in your life. “When we connect any practice, whether it’s going to the gym or practicing mindfulness, to the things that matter most, we’re much more likely to be intrinsically motivated or to return to the practice,” Cameron says.

For anyone working on a meditation habit—new or old—the final idea to remember is self-kindness. “I really encourage a kind of commitment to let go of judgment,” says Brach. “Be really aware of the intention to meditate coming from that deep place of wanting to do something good for yourself, wanting to be more healthy. So it becomes not another to-do that you can fail at but something that you’re offering out of your heart to yourself.” □

tell the brain there’s an emergency and set off the body’s alarms, or keep the brain on an even keel, maintaining a sense of calm. This is the change that happens when breathing slows down, says Krasnow. “This liaison to the rest of the brain means that if we can slow breathing down, as we can do by deep breathing or slow, controlled breaths, the idea would be that these neurons then don’t signal the arousal center and don’t hyperactivate the brain. So you can calm your breathing and also calm your mind,” says Krasnow.

Breathing, in other words, can change the mind, or the state of the mind.

So why do some people still feel anxious after a few deep inhales and exhailes? It’s possible that their genetic variations mean that they have a dulled response to this cluster of nerves responsible for regulating breathing so that it takes more than conscious deep breaths to switch the brain from an aroused



to a calm state. In those cases, having something like a drug or other intervention might be needed to specifically target the right group of breathing nerve cells and control its activity. That’s where Krasnow hopes the work will lead: to a way

to better control the calming effect that deep breathing can have on the brain. In the meantime, he says, don’t dismiss deep breathing as a way to combat stress and anxiety. There’s now a scientific explanation for why it works.





30 PERSONAL FINANCE HABITS EVERYONE SHOULD FOLLOW

ABIDING BY SOME GOLDEN RULES CAN HELP YOU KEEP AND GROW YOUR MONEY. IT'S EASIER THAN YOU THINK

BY LEN PENZO

Additional reporting by Ryan Hatch

1. Take advantage of your employer's flexible spending account. These accounts not only reduce your tax liability but also act as a quasi-savings plan.

Not everything is covered by your employer's health-care plan. A flexible spending account (better known as an FSA) is pretax savings that can be applied to health-care expenses outside of your network. The funds can be withdrawn tax-free for out-of-pocket costs like childcare and visits to chiropractors and psychologists. And because contributions are pretax, employees can look at FSAs like a tax write-off resulting in hundreds of dollars saved per year.

2. Pay attention to mortgage interest rates—even after you buy a home. People who fail to do this may miss out on refinancing opportunities that could save them tens of thousands of dollars over the life of their loan.

3. Never buy anything on impulse. One of the best ways to help prevent impulse buys is to make a shopping list and then stick to it.

4. Pay your bills online when possible.

Not only is it instantaneous, but paying bills online also guarantees that the money is safe and secure compared with a snail-mailed check. And of course there's the environmental benefit of eliminating paper bills. This method of paying also means that all payments are kept in one place. Plus, a bank account isn't always required, so in some cases you might want to pay with a credit card and earn points. Yes, it's generally a bad idea to cover one debt with another, but remaining vigilant about paying off those charges can be a nice way to boost airline miles or cash bonuses.

5. Ignore credit card convenience checks that arrive in the mail. They usually come with high fees that make them extremely expensive.

6. Save part of your income for retirement. Try saving at least 10% from every paycheck. It's never too late to start.

Save upwards of 10% of your paycheck is always a good idea. But the latter advice here probably matters more. Never saved a dime in your life? So what? Start now. Even at age 40 with nothing in the bank, setting aside \$18,500 each year—the maximum that workers can contribute to a 401(k) in 2018—with a return rate of 7% will equate to roughly \$1 million by age 65.

7. Keep the money in your wallet to a minimum. You can't spend (or lose) cash that you're not carrying.

8. Have an exit strategy when investing. Without one, it's tough to recognize the right time to cut your losses—or take your profits.

9. Never assume past performance guarantees future results.

Had a killer year of freelancing? Congrats. But take a step back: is that work flow—or its level of compensation—going to continue? It usually isn't your fault, but markets that boom also tend to bust. Perhaps, if you will, look at your future earnings the way a farmer might: rainy years, even several in a row, are often followed by dry spells if not outright droughts. So if, say, you're planning for a 30-year mortgage, take the mean of your earnings from the previous five years (better yet: the previous 10) and then apply it to what can be afforded. It's better to be pleasantly surprised than to be left house poor. Remember: death and taxes are as certain as things get.

10. Take advantage of automatic paycheck deductions. Not only do they ensure that you pay yourself first, but they're an easy and painless way to save for retirement.

Sync your paychecks with a bank account to eliminate any lag, and take out savings and retirement before you even have a chance to spend it. Plus, all 401(k) accounts are deducted pretax. (If your tax bracket will be lower in retirement, experts recommend a 401(k) account rather than a Roth IRA.)



11. Read all contracts before signing.

It's tempting to fly through all that paperwork when a new apartment or car is just minutes away. But slow down and read the fine print. Breaking a lease can cost thousands; pushing mileage past its limit (usually 36,000 over three years) can cost up to 20 cents a mile. And there is rarely a negotiation—written contracts are legally binding in every state. Tip: when in doubt, ask a lawyer or at least get a second opinion. If a salesperson says that you can't or that there isn't enough time, walk away entirely.

12. Review your credit card statements for errors and erroneous charges.

In 2016, more than \$24 billion was fraudulently charged to consumers' credit accounts worldwide. It's no one's idea of fun to pore over transactions of overpriced coffee, but learning that several hundred dollars of unauthorized payments have gone through stings worse. Just . . . do it. Once a month, read over your credit card statements. You'll sleep better.

13. Increase your 401(k) contributions every time you get a raise.

This should be a no-brainer, and most large companies automatically adjust this for employees. But take it a step further. Each year, boost your contribution by one percentage point with a cap of 18%. *Forbes* notes that if a 35-year-old earning \$40,000 annually raises her initial 6% contribution by one percentage point for a dozen years, after 30 years, assuming a 6% growth rate, she'll have saved \$576,000. And that's with no change in salary.

14. Properly maintain your car. By following your car's maintenance schedule and paying a little upfront, you'll reduce the risk of encountering more costly major issues down the road.

15. Pay bills on time. By doing so, you'll avoid spending money on needless late fees—and they add up.

Set this up automatically. There's a 29% chance that a bill's due date falls on a weekend—a time when thinking about paying bills isn't likely to be on your mind—so why even risk missing it and subjecting yourself to late fees? U.S. credit card companies are legally allowed to charge as much as \$38 for payments that are even minutes past due (and trust us, they will take advantage of that). Paying late fees is little different from withdrawing money from the bank and lighting it on fire. Which is illegal.

16. Use your credit card to buy things only if you can pay it off in full at the end of each month. It's not as good as paying cash, but it's close.

17. If you absolutely can't pay your credit card in full each month, then at least pay double the minimum. Here's a credit card fact: making minimum payments each month will ensure you pay the maximum interest. Sadly, many people don't realize the outrageous costs of interest. For example, if someone owes \$2,000 in credit card debt at 18% interest, paying the minimum of \$50 per month will in the end cost \$1,077 in interest payments. That's more than half of the original bill! (Not to mention that it will take more than five years to pay off.) The solution? Double the minimum. In the same scenario, paying \$100 a month will bring the interest to \$396 and will take only two years.

18. Leverage “good debt”—loans that let you buy things that will increase in value or lead to a higher income. Taking a course, for instance, could teach you the in-demand skills you need to earn a raise or promotion.

19. Don't rely on Social Security as your primary source of retirement income. Among retirees, Social Security currently pays an average of less than \$17,000 a year. Plan now to supplement that with a mix of IRAs, a 401(k), other savings and home equity.

20. Avoid the use of payday loans to cover temporary financial shortfalls. Eliminate monthly shortfalls by following a budget and maintaining an emergency fund.

21. Avoid playing the lottery. There is a reason the lottery is known as the “stupid tax.”

If you live in the U.S., the chances you'll be struck by lightning in a given year are about 1 in 700,000. The chances you'll win the Powerball this year are roughly 1 in 175 million. In other words: no, you aren't going to win. Period. Your cousin's friend's uncle's nephew's neighbor who lives in Oregon hit the jackpot last year? Cool, good for her. You won't. Give the money to charity instead.

22. Never overpay for insurance. For example, why pay the higher auto-insurance premiums for low deductibles if you rarely make claims?

23. Fully understand stocks and other financial instruments before investing in them.

24. Buy a new car—or better yet, a newer used car—and keep it for at least 10 years.

Buying new cars is costly because they can lose upwards of half their value by the time they are three years old. Carfax says that the moment a new car leaves the lot, it loses 10% of its value. From there it only gets worse. On average, a new car depreciates 60% in its first five years. The sharp decreases level off, but the point stands: buying a new car is like dropping half your paycheck on a pair of jeans—you better wear them for a long time. Jeans may not stay good for 10 years, but your car can, so to get your money's worth, hang on to it for at least that long.

25. Optimize your 401(k) account every year. Diversifying and balancing your allocations will minimize your losses in the event of a major market downturn.

In other words: don't make the same investment bet year after year. Markets change; stocks rally and fall. Safeguard your investments with balance. That said, younger people can afford to ride big swings—if there's a big loss, there's time to recover. Once you reach retirement, move some of your savings into a less-volatile mutual fund. As Warren Buffett once said, “The goal of the nonprofessional should not be to pick winners—neither he nor his ‘helpers’ can do that—but should rather be to own a cross section of businesses that in aggregate are bound to do well.”



26. Remember to comparison shop when you can.

27. Negotiate. Whenever the opportunity presents itself, get the best price.

28. Maintain an emergency fund. Everyone should have between three and six months of living expenses in the bank.

Remember the earlier advice: one good year doesn't mean another. Again, while it might be out of your control—layoffs and illnesses happen—sometimes even the most talented, hardworking folks find themselves between jobs and with no steady income. Did you know that 57% of Americans have less than \$1,000 in savings? Don't be one of them. Begin putting away even just 12% of your monthly paycheck (tip: do so automatically through your bank); in three years, that will amount to more than four months' worth of income.

29. Avoid interest payments whenever possible. In practice, this means paying off debts before someone else makes (more) money off of them. Sometimes you need January to pay off some of that holiday spending. One month is allowable, but just don't make it a habit and let purchases sit for too long. If you can't afford to pay off the full amount in a month (mortgages, car payments, etc. aside), think twice, because the true cost begins to escalate quickly. A painful but necessary reminder: a \$75,000 graduate-school bill will, in the end, cost about \$100,000 after interest is paid.

30. Treat your household like a business.

By taking an active role in managing finances—and looking at ways to maximize your income—you'll ensure a solid financial future for you and your family. Maybe you'll relax enough to enjoy everything you've earned. □

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Could better habits have improved the relationship between Lucy and Charlie Brown?

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SPEAKING OF HABITS . . .

“It is easier to prevent bad habits than to break them.”

BENJAMIN FRANKLIN

“Creativity is a habit, and the best creativity is the result of good work habits.”

TWYLA THARP

“Good habits formed at youth make all the difference.”

ARISTOTLE

“The secret to permanently breaking any bad habit is to love something greater than the habit.”

BRYANT MCGILL

“Nothing so needs reforming as other people’s habits.”

MARK TWAIN

“HABITS CHANGE INTO CHARACTER.”

OVID

“HABIT IS SOMETHING YOU CAN DO WITHOUT THINKING, WHICH IS WHY MOST OF US HAVE SO MANY OF THEM.”

FRANK A. CLARK

“A bad habit never disappears miraculously. It’s an undo-it-yourself project.”

ABIGAIL VAN BUREN

“Love is the hardest habit to break and the most difficult to satisfy.”

DREW BARRYMORE

“GOOD HABITS ARE WORTH BEING FANATICAL ABOUT.”

JOHN IRVING

HABITS HELP

...

The wrong habits may torment and trouble us, but adopting the right habits, even simple ones in our day-to-day lives, can make us healthier, wealthier and wiser.

FAMILY HABITS: HIS AND HERS

...

WHY DOGS CHASE THEIR TAILS

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HABITS OF THE RICH AND FAMOUS

